Opened up! One of the new 28-foot Richardson standardized cruisers. She does eleven miles per hour with a 6-cylinder Gray motor.

CONTENTS

VOL. XLIII · No. 1. JANUARY · 1928

OLD SHIPS AND MODERN YACHTS. *By George C. Wales* 33
THE INTERNATIONAL SALON NAUTIQUE. *By Warwick M. Tompkins* 36
THE "JIB-BOOM." *By Dr. Manfred Curry* 39
THE RUBBER TIRED TRAMP. *By Capt. Abildgaard* 41
DEEP WATER SAILING. *By E. G. Martin* 44
AND NOW THE FANTAIL BOAT 46
STEEPLE CHASING ON A 12-TON YACHT. *By Robert J. Scott* 47
A CRUISING STAYSAIL RIG. *By Thomas D. Bowes* 51
THE STAYING OF MARCONI MASTS. *By C. O. Liljegren* 54
ELIMINATING VIBRATION IN MOTOR-DRIVEN CRAFT. *By J. T. Rowland* 56
ON THE FAR REACHES OF THE PACIFIC. *By Captain James A. M. Earle* 57
THE MONTH IN YACHTING 61
THE NEW SEA SLED OUTBOARD 68
A HUSKY SMALL OUTBOARD MOTOR CRUISER 69
PLANS 71-75
IN THE LEE OF THE LONGBOAT. *By Cap Stan* 76
FITTINGS FOR INTERNATIONAL MODEL A CLASS YACHTS. *By John Black* 77

YACHTING, published monthly at 10 Ferry Street, Concord, N. H., by YACHTING, INC.; Editorial, Circulation and Advertising Offices, 25 West 43rd Street, New York, N. Y. John Clarke Kennedy, *President;* Earle D. Grimm, *Secretary and Treasurer*. Subscription price, $4.00 a year; single copies, 35 cents; foreign subscription, $5.00; Canadian subscription, $4.50. Changes of address must reach the Circulation Offices four weeks before they are to be effective; old and new addresses must always be given. Entered as Second Class matter at the Post Office at Concord, N. H., under Act of March 3, 1879. Copyright, 1928, by YACHTING, INC. Title registered U. S. Patent Office. European agent: The International News Company, Ltd., Bream's Building, London, England.

Yacht Club News and Gossip

New York Yacht Club

AT the annual meeting of the New York Yacht Club, held on December 15th, the following officers were elected to serve during the coming year: Commodore, Vincent Astor; Vice Commodore, Winthrop W. Aldrich; Rear Commodore, Junius S. Morgan; Race Committee, Gherardi Davis, Chairman, Clinton Mackenzie and Edmund Lang.

Indian Harbor Y. C.

The following officers were elected to serve during 1928 at the annual meeting of the Indian Harbor Yacht Club, of Greenwich, Conn., on December 10th: Commodore, Robert Law, Jr.; Vice Commodore, Clifford D. Mallory; Rear Commodore, Francis S. Page; President, Robert Law, Jr.; Secretary, William E. Major; Treasurer, S. W. Whitson; Measurer, Morgan Barney; Regatta Committee, John V. W. Reynders, Chairman, Edward McFarlan and Frank H. Colladay.

Rochester Y. C.

At the annual meeting of the Rochester Yacht Club, held December 1st, the following officers were elected to serve during the coming year: Commodore, Harry C. Stevenson; Vice Commodore, Philip Hoffman; Rear Commodore, John H. Castle; Fleet Captain, John Barrows; Treasurer, T. A. Sharp; Secretary, Richard Saunders.

Detroit Boat Club

At the annual meeting of the Detroit Boat Club, held on December 9th, the following officers were elected to serve during 1928: Commodore, Joseph Krolik; Vice Commodore, Fraser Whitehead; Rear Commodore, Philo Wright; Fleet Captain, Ted Nowack; Treasurer, Sheldon Smith; Secretary, Robert Yerkes; Measurer, Manson Carpenter.

North American Y. R. U.

A large and enthusiastic number of members of the North American Yacht Racing Union attended the annual meeting and dinner of the organization, held at the Yale Club, New York City, on November 18th, when the same officers who have guided the Union the past year were unanimously re-elected, as follows: President, Clifford D. Mallory; Vice President, George H. Gooderham; Treasurer, Fred D. Porter; Secretary, James W. Alker; Executive Committee, E. L. Jahncke, J. V. Santry and R. B. Schauer. President Mallory was unanimously elected a life member of the organization, being the first member to be so honored.

At the suggestion of Commodore W. A. W. Stewart, of the Seawanhaka Corinthian Y. C., the Union voted to become the official challenger for the Scandinavian Gold Cup in 1928, to be raced for in Sweden as a result of the recent victory of the Swedish 6-metre yacht *Maybe* in the series held recently off Oyster Bay. This move will greatly strengthen the position which the Union has already gained in the past two years.

The International Star Class was officially recognized by the Union, and the Stars will be included in the program of yachting events in the coming Olympic Games abroad.

The International 12-metre Class was also recognized by the Union, the 6- 8- and

Yachting Calendar

1928

January 20–28 — Motor Boat Show, New York.
February 16–25 — Midwinter Star Class Regatta, Havana.
March 10–18 — Races for Stars, 6-metres and R Class, Los Angeles.
March 16–17 — Motor Boat Regatta, Miami Beach.
May 30 — Hawaii Race, Newport Harbor, Cal.
June 23 — Start Bermuda Race, New London.
August — International Star Class Championship, Newport Harbor.

10-metre classes having been previously recognized.

The Union approved the suggestion made by John G. Alden, that there should be a special measurement rule to apply to classes of shoal draft boats for use in such localities as Great South Bay, Barnegat Bay, various Gulf ports, etc., and elected the following committee for the purpose of framing a special rule for such craft: John G. Alden, Thomas D. Bowes and Herbert L. Stone.

The Executive Committee which met before the general meeting, voted to co-operate with the American Power Boat Association in so far as the interests of the two organizations converged. It also agreed in principle with the proposal of Wm. U. Swan, of Boston, that the Union include a branch for junior members, and the details for a junior organization will be worked out during the winter.

The wording of several racing rules was changed for the purpose of clarification, which in no way affected their meaning. After the dinner a fine set of moving pictures of the recent six-metre races was shown by Clinton H. Crane.

Races in Bermuda

The Royal Bermuda Yacht Club, of Hamilton, Bermuda, will stage two series of team races this spring between boats of their one-design class and boats from the States. A team of three Jamestown Triangles will engage the local boats late in March, while in the middle of April a team of four Sound Interclubs will again try conclusions with the Bermudians, whom they defeated last year. The Triangle team will consist of *Arrow*, B. C. Hirst, Jr.; *Cub II*, Murray Keeler, and another boat to be selected. The Interclub team has not yet been picked.

Intercoastal Races at Los Angeles

Great interest is being manifested on both the East and West Coast in the intercoastal series of races to be held at Los Angeles from March 10th to 18th. The races will be staged for Class R, the 6-metre Class, and the Star Class.

The first five days of the meeting will be devoted to the free-for-all series of three races for each of the three classes, over courses varying in length from twelve to fifteen miles for the larger craft, and nine to twelve miles for the Stars, alternating between windward and leeward and triangular courses.

The team races, under similar conditions, will be held the 15th, 16th and 17th of March, the size of the teams varying according to the number of boats available in each class. The final day will be reserved for sail-offs, or for a special race in case there are no sail-offs.

In the 6-metre events the West Coast will have several entries. One new boat is building at the Wilmington Boat Works from designs by Nick Potter. Johann Anker, of Norway, will ship out a new boat shortly. Both *Noreg*, the winner of the Seawanhaka Cup, and the Finnish *Merenneito*, have been bought by West Coast yachtsmen, and will be shipped west soon. The Crane-designed *Peggy* is already in western waters.

Clifford D. Mallory will in all probability ship the famous *Lanai* to the west coast for these contests. Henry L. Maxwell and W. A. W. Stewart will either send or take in person two other boats. Ralph Ellis, who is wintering in California, may sail one of these craft.

As already announced, Charles E. Welch will take out his famous Class R boat *Live Yankee*, and Junius S. Morgan will be on hand in *Puffin*. These two Eastern craft will have their hands full when they meet a double handful of the West Coast cracks. No selection of Eastern Star boats has yet been made, but the Star boat owners are always game for any and all competition, and several fast craft will surely take part.

Hawaii Race

At the recent meeting of the Hawaii Race Committee at Los Angeles it was announced that Sir Thomas Lipton had donated a handsome trophy to go to the winner of the West Coast biennial classic. The entries to date are as follows: *Teva*, yawl, Clem Stose, San Diego Y. C.; *Temptress*, schooner, John Gilbert, Newport Harbor Y. C.; *Aafje*, schooner, Robert Millsap, Los Angeles Y. C.; *Scaramouche*, schooner, George E. Vibert, Newport Harbor Y. C.

Los Angeles Y. C.

The Los Angeles Yacht Club, through Commodore Robert E. Millsap, recently petitioned the Los Angeles Harbor Commissioners for a lease on approximately three acres adjoining Cabrillo Beach at the land end of the breakwater. In its communication to the board the club outlined that with acquisition of the lease the organization would have an anchorage area of nearly 45 acres. Quite a large sum of money has already been pledged by members toward construction of a new clubhouse, which it is expected will be started as soon as the land leases are adjusted. Plans for the new building are already completed, and an active drive for new members is being carried on.

On the Potomac

At the annual meeting of the Eastern Power Boat Club the following officers were elected for the ensuing year: Commodore, J. E. Battenfield; Vice Commodore, F. C. Berwick; Fleet Captain, R. Kaiser; Recording Secretary, M. Sackett; Financial Secretary, W. H. Battenfield; Treasurer, W. Ruckert; Measurer, W. Dowling.

The Corinthian Y. C. has elected the following officers for 1928: Commodore, A. B. Bennett; Vice Commodore, Arthur Middleton; Rear Commodore, H. G. Galliher; Secretary-Treasurer, Robert W. Wilson; Recording Secretary, Charles S. West; Measurer, Sewell Shreve.

DETROIT MICH

CATALOGUE 605 V. 43-44

Fearless at Sea

"Off to Mother Carey, where she feeds her chicks at sea."

STORMY PETRELS, tiniest of all web-footed birds, were so called by sailor men because Petrel meant "little Peter".

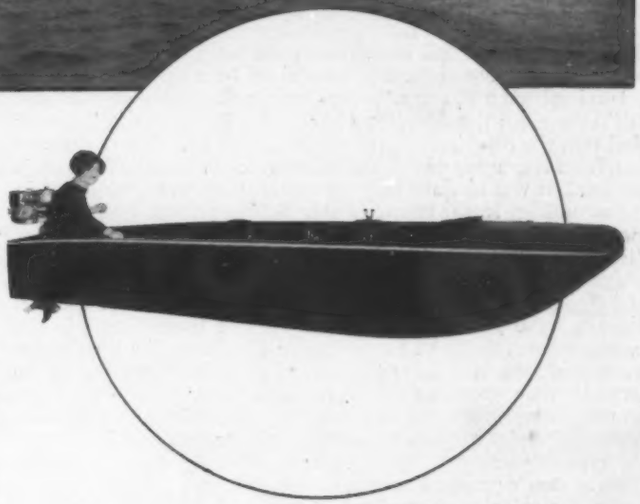
No matter how rough the sea or boisterous the gale, there the little bird was to be seen, far out, swift and secure, lightly tripping up and down the waves.

Like their namesake, they seemed actually to *walk* upon the water and because they flocked about a ship in a companionable way, the old Salts nicknamed them "Mother Carey's Chickens".

Come around to the New York Motor Boat Show and see the Sea Sleds—a whole flock of them—from luxurious Model 28 with its 200 H.P. down to the last and latest design, swagger little Model 16. They rival Mother Carey's Chickens in ability and speed.

The new outboards are as smart as paint. They are practically non-capsizable and non-sinkable. They show a speed which puts them right on the edge of the racing class, and a sturdy endurance and cargo-carrying capacity which puts them in a class all by themselves.

Model 13 is proving to be the ablest thing afloat. Solid mahogany with double-planked bottom, drive her at 21 miles an hour when it's rough and she will give you an exhilarating sensation of speed that will make you think you are in the air almost as much as in the water. But you can't pound her bottom out, and when she lands, instead of that hard crack which sounds as though planks and frames had parted company forever, she comes down like velvet on a cushion of air and comes down dry as a chip. If the sea is lively enough, you get all the sensation of a bucking broncho without the spine-jarring jolt.



Model 13—It's those easy, powerful lines which keep her so safe and dry

There is a new member of the Sea Sled family. Model 16 for outboards will make you sit up and take notice—she's worth looking at.

Both Model 13 and 16 are as smooth and fast in light weather as anything you ever handled short of a racing shell, but when the sea kicks up they *play* with it. You don't have to worry about yourself or them. They are as safe at sea as Mother Carey's Chickens.

To Dealers:

Twice since Labor Day, an odd thing has come up—one man bought a Model 13 and immediately on delivery ordered a Model 23. Another got himself a Model 23, and then turned right around and bought a Model 13.

You'll see the reason for this at the New York Motor Boat Show, January 20th.

Meanwhile if you've got floor space for a Model 13 and bank space for larger profits, write for terms.

List Price $218.00 F. O. B.

Exclusive features

Dependable as a fine car
Will not roll
Will not stick her nose under
Planes on her own spray
Does not drag aft
Navigates shallow water
Safe and dry at speed in rough water

TRADE-MARK REG. **SEA SLED** U. S. PAT. OFFICE

THE SEA SLED CORPORATION

Sole Licensee under Hickman U. S. Patents

226-228 Fourth Ave. at 19th St., New York

All prices F.O.B. Yards at W. Mystic and Groton, Conn.

Exclusive uses

Commuting marine motor
Class racer for youngsters
Fast marine runabout for women
Day Cruiser for family
Tender for racing yachts
Harbor tender for sea-going yachts

Model 28—200 H.P. Sedan Top

SEA SLED

SPEED · · WITH COMFORT AND · · SAFETY

Model 23—75 H.P. Sedan Top

Yachting Notes and Comment

Proposed Changes in International Rule Formula

AS events are shaping at the present time it may be well to recall certain happenings in the early part of this year, as they may help to explain the present situation. It will be remembered that at the National Conference on Yacht Measurement held in London during February of this year, modifications to several sections of the International Rating Rule were suggested by Mr. Clinton H. Crane on behalf of the North American Yacht Racing Union. Among these suggested modifications was one which affected the rating formula. Mr. Crane proposed that the measurements of "girth" and "girth difference" should be omitted, and thought the formula should read: "Length plus the square root of sail area, minus the average height of freeboard" — the sum of these to be divided by a suitable constant.

Having been a strong advocate for the discarding of "G" and "d" ever since the adoption of the rule, I was, naturally, very glad that the American representatives took this view of the case but, from the outset of the discussion which followed Mr. Crane's proposal, it was obvious that no modification was practicable in the meantime. In the course of this discussion, Mr. Johan Anker made it clear that he had always been against the inclusion of "little d" in the formula, and that if there were any possibility of agreement, he would not be against dropping both the "girth" and "girth difference" measurements. Mr. W. A. W. Stewart expressed the opinion that the inclusion of these factors in the measurement rule tended to influence the shape of a boat under water and suggested that, if ¼ G and 2d were dropped from the formula, they would be able to say that under water design was no more restricted under the International Rule than under the Universal Rule. Mr. Alfred Benzon said he was convinced that the type of yacht now produced under the rule would be altered if Mr. Crane's proposal were to be adopted, and pointed out that under the rules, as they stood, it would be impossible to make any change in the factors at the present time. Coefficients could be changed but the factors could not. In other words, even if the modification suggested were considered to be most desirable, nothing could be done about it. It may have occurred to him that by substituting the coefficients "o" "o" for "¼" and "2," the desired end could be obtained, but he did not point this out.

The designers present were asked for their views on the subject and Mr. Fife said: "The point our American friends want to clear up is whether the 2d and girth have any influence in design. I have no hesitation in saying that it has a considerable influence."

Asked by Mr. Stewart if, in his opinion, the dropping of these factors would change the shape of boats built under the rule for the better or the worse, Mr. Fife replied, "It does not change the shape for the better or the worse. If you put it that way, it might leave them the same."

This drew from Mr. Stewart the question: "In other words, it (the dropping of these factors) is not very important?"

To which Mr. Fife replied, "It is not very important."

Mr. Alfred Mylne was of the opinion that it would materially alter the section if these two factors were eliminated. It would make the boats beamy and would be productive of a practically level keel. Mr. Charles Nicholson was inclined to think that the discarding of the "d" measurement would have very little influence on design, but he was of the opinion that the discarding of the "girth" factor would have a big influence on design. It would probably have the effect of dropping the forefoot of the lead keels, shortening them up and getting a differently shaped profile. Mr. Anker concluded the debate with the following characteristic remarks: "What is the influence on the section of the 'd' and 'girth'? To give myself entirely away, when I design for the Universal Rule, there is no difference between my boats under the Universal Rule and under the International Rule as far as midship section."

It was ultimately agreed that no alteration could be made in the factors of the rule at that time, but that notice should be given to all countries belonging to the International Union that, at the end of three years, this question would be reconsidered.

At the annual meeting of the Swedish Yacht Racing Association, which was held recently at Gotenburg, this subject was again discussed and it is reported that objections were made to a recommendation which had been received by the Secretary of the International Yacht Racing Union from the Yacht Racing Association of Great Britain. This recommendation, it is said, supported the American proposal to drop the factors "G" and "d." From a technical point of view, it was feared that the dropping of "G" would develop boats with a deeper and shorter keel — features that were thought to be undesirable by the Swedish Yacht Racing Association. As regards the dropping of the factor "d," it was considered that this would not be of the same importance, but that even this factor had a certain value as, without it, yachts would probably be given a "different midship section." In view of the opinion that the proposal would, if adopted, tend to produce a type of yacht altogether different from the "intended type," it was decided that it would hardly be desirable to drop the factors "G" and "d."

It is evident that the Swedish view of the matter is opposed to the American, and that they do not agree with Mr. Johan Anker in thinking that the shape of the midship section would be practically unaffected by the dropping of the factor in question. It is also somewhat strange that there should be any opposition to the proposal in view of the fact that the rating formula, in its amended form, has already been adopted for yachts of above 12 metres, with a safeguard as to the length of keel. If it is not necessary to keep "G" and "d" in the rule for the larger yachts, it is not easy to see why it should be necessary to do so for the smaller craft. It is claimed by most experts that these two factors have only a slight influence on design, and by Mr. Fife that they have a considerable influence, but that this influence is not very important. Personally, I am inclined to agree with what I believe to be the American view that "G" and "d" are unnecessary, and that such influence as these factors may have on design is slight, but what there is of it is undesirable. Surely it is wrong, in principle, to measure the girth difference at a point five per cent *abaft* the center of the load water line.

It is also reported that the Swedish Association has agreed to a proposal — from whom it is not stated — that, in the clause in the International Rule dealing with masts, the wording "minimum thickness" shall take the place of "uniform thickness." It is sincerely to be hoped that an alteration to the rule as it now stands will be agreed upon. As I said, in my November letter to YACHTING, I regard the agreement reached at the late International Conference, in regard to the thickness of shell of masts, as particularly futile, and probably it is responsible for the loss of a good many masts last season. Let us hope we shall soon have heard the last of "uniform thickness" for the shells of hollow masts.

M. HECKSTALL-SMITH.

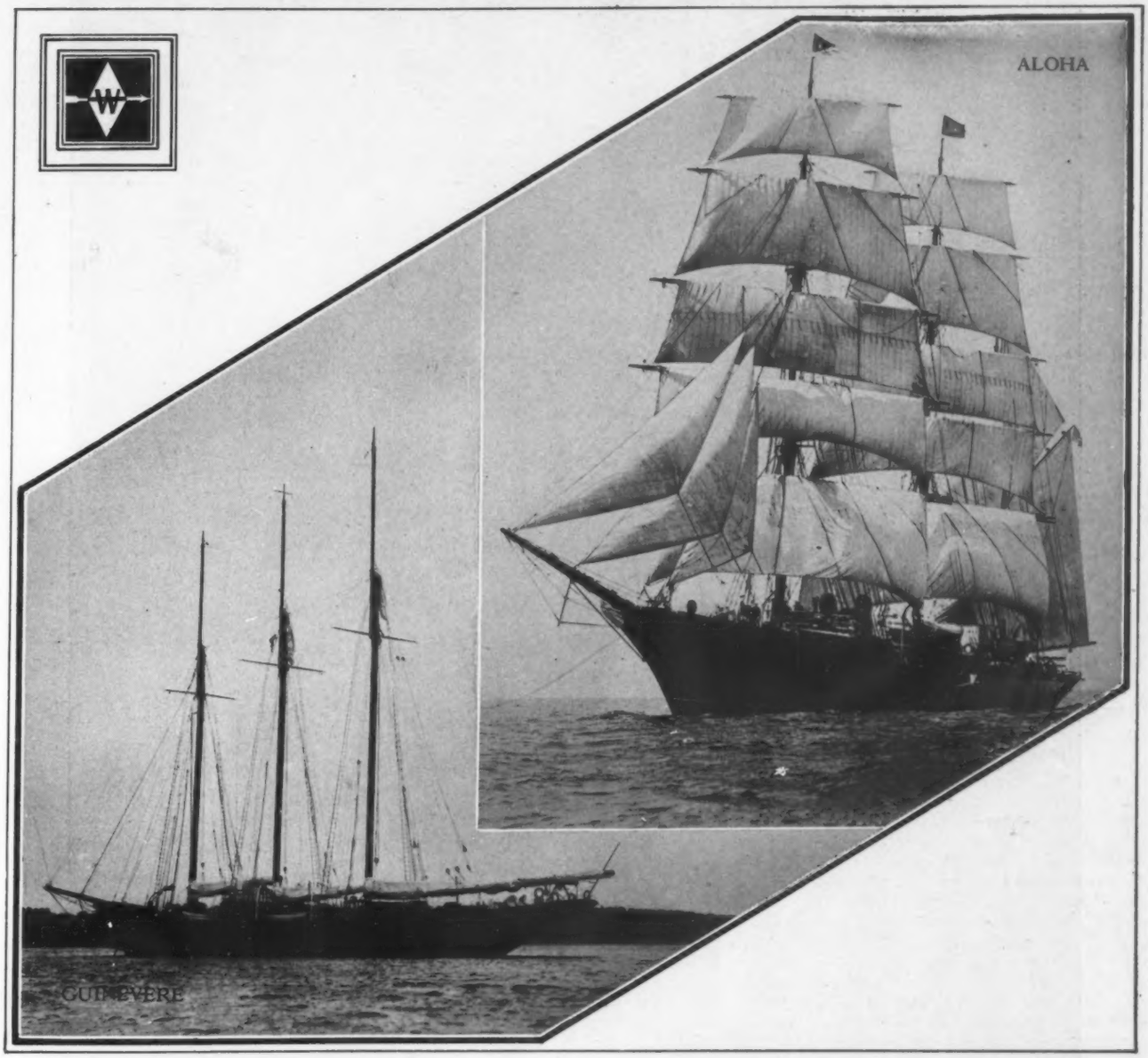
Yacht Building in New England Yards

IN New England the 1928 fleet of yachts is taking form in a score of well-known yards, and although the amount of building on January 1st was somewhat less than at the same time a year ago, when 400 yachts had been laid down east of the Connecticut, the yards are well filled with work. The productions of John G. Alden were leading the new fleet in numbers at the beginning of the year, with 22 auxiliaries, three power boats and over 40 knockabouts for Gloucester, Duxbury, Plymouth, Jamestown, Lake St. Regis and Watch Hill. In addition this designer has turned out the lines for a Class Q boat for his own use at Marblehead, and an "R" for a Boston yachtsman. The largest sailing craft building in New England this year is his 112-foot auxiliary schooner for Dr. Henry D. Lloyd, of Boston.

Before leaving for Africa recently, Frank C. Paine designed a Class Q yacht for Isaac B. Edmands, of the Eastern Yacht Club, which the F. D. Lawley Co. is building, and L. Francis Herreshoff has turned out one of the same class for Grafton Smith. Herreshoff has also designed a six-metre for W. A. W. Stewart and Howard E. Smith.

Eldredge-McInnis, Inc., have also turned out a fine line of power craft, two 85-footers being under construction at Lawley's for Henry A. Morss and Robert C. Morse of Boston. This firm is also responsible for a number of one-design cruisers for well known builders of stock boats. The 72-foot auxiliary yawl for Robert E. Tod, the 100-foot power cruiser for Harold S. Vanderbilt, and a 60-foot auxiliary sloop for a New York yachtsman are the outstanding pieces of new work at Bristol. Other New England designers, Crocker, Winslow, Owen, Munroe, Crowninshield, Belknap, Hand, and Dobson have all been turning out interesting designs during the past three months.

W. U. SWAN.



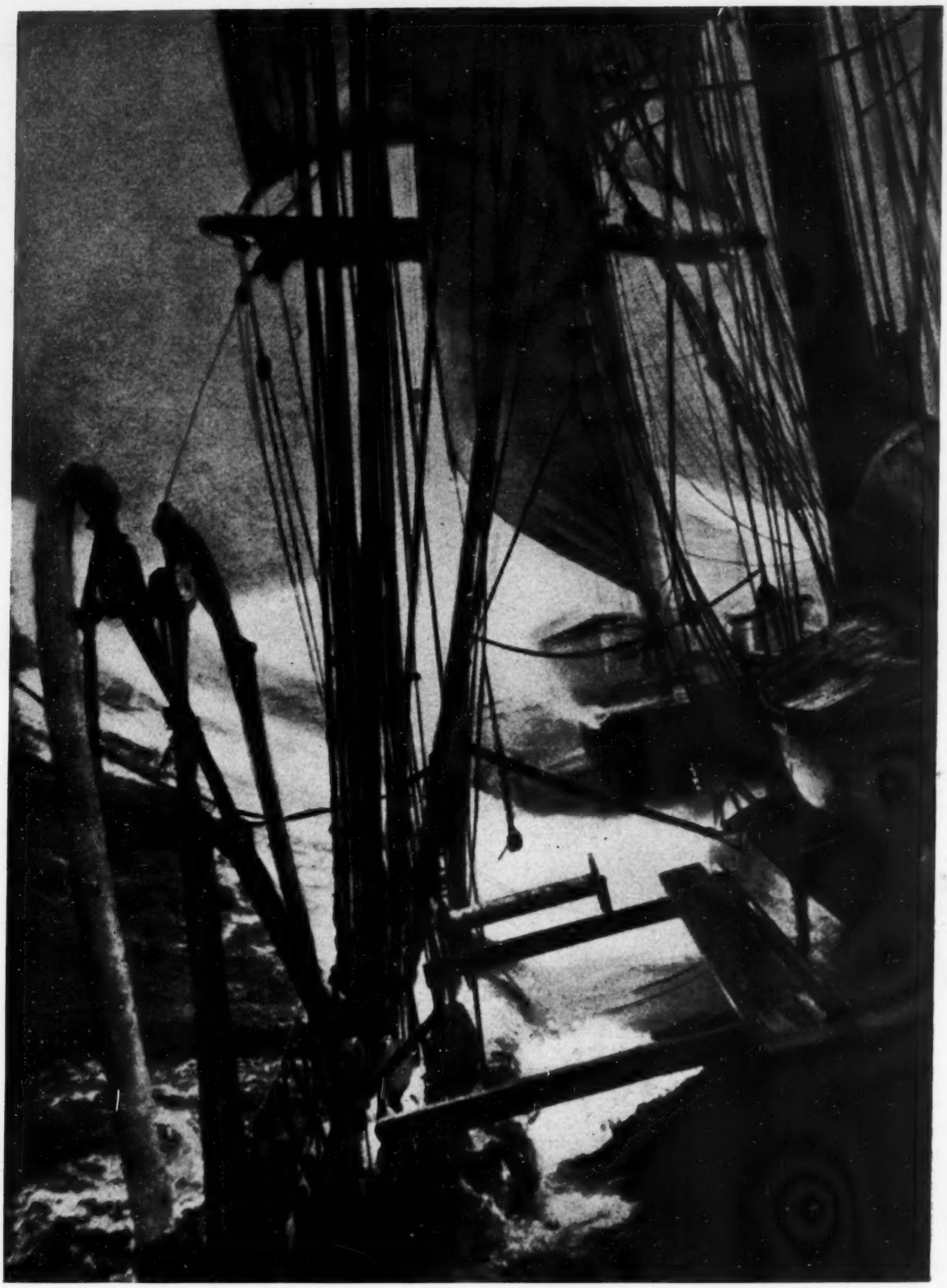
Winton-Diesels

"Aloha," owned by Commodore Arthur Curtiss James, and "Guinevere," owned by Edgar Palmer, are typical Winton-Diesel ships. Proved reliability, durability, and smooth, flawless performance under all kinds of operating conditions—these are the time-tested qualities that have placed Winton-Diesel Engines in the world's finest auxiliary schooners.

Booklet illustrating Winton-powered yachts sent upon request.

The Winton Engine Company, Cleveland, Ohio

Diesel Engines, 100 to 1500 h. p. *Gasoline Engines, 50 to 500 h. p.*



"With the boarding seas o'er the weather rail
Sweeping our decks like a raft."

Slamming Into It While Making Westing Around Cape Horn.

YACHTING

VOLUME XLIII
NUMBER I

JANUARY, 1928

35 Cents a Copy
$4.00 a Year

The old vessels of the early nineteenth century offered unusual opportunity for painting effects. From left to right those shown are: a Baltimore clipper, 1830; ship *Rousseau*, 1801; *Nancy Ann*, 1809; *Stafford*, about 1850.

Old Ships and Modern Yachts

With Some Notes and Comment on Their Painting and Decorations

By GEORGE C. WALES

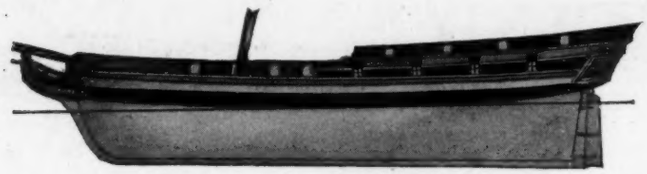
Illustrations by the Author

INTEREST in the problem of the exterior painting of yachts has received new impetus since the visit last summer of the European "Sixes," with their various bright-colored or mahogany topsides, white or green underbodies and brilliant boot tops, while *Atrocia's* sides, in two different colors, revived memories of Crowninshield's famous *Cleopatra's Barge*. Indeed, a little study of the color schemes of old-time vessels might well bring suggestions as to combinations of colors and the placing of stripes, or other decorations, in harmony with the design of our modern yachts.

For data on the subject we have the old ship paintings, occasional newspaper items, and now and then one finds a careful description of a vessel "wanted" for smuggling or other offenses. "White bottom and turpentine sides" is a description frequently met with in eighteenth century records — the white color presumably that of the tallow, brimstone and resin mixture used as an under water preservative, and the topsides finished "bright" with turpentine or oil. Sometimes a brilliant stripe or two at, or below, the waist rail was added, and this combination might well be the crude and remote ancestor of the Finnish *Merenneito's* mahogany, white and gold.

Copper sheathing came into use about 1760 and one expects to find white bottoms becoming fewer after that. Bright colors, in bands and stripes, were popular and used freely in all sorts of combinations — witness Captain Boit's sloop *Union*, of Boston (circa 1794), as shown in the water color in his *Journal*. Her bottom was white; her wales black. Then came a broad yellow streak, a narrow black stripe, and a medium emerald green stripe, topped by the yellow waist rail. Next above is a black frieze containing the square windows of the after cabin, whose portlids show vermilion when open. The gangway rail shows gold. The quarterdeck bulwarks are emerald green, topped with a gold rail, and above this the guns look out through a wall of indeterminate construction painted gray. White hammocks top off the composition and the galleries show black with gold trim. We are probably justified in believing that Captain Boit's use of gold was confined to his drawings, and that

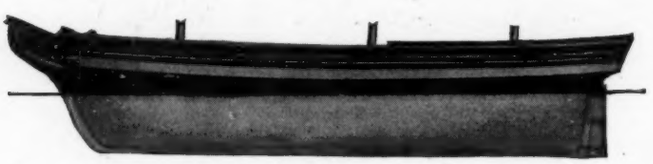
"One idly wonders if it would have been brave, or only foolhardy, to reproduce the port streak worn by the namesake of *Houqua*."



Painting of Captain Boit's sloop *Union*, 1794, as shown in water color in his journal. This little vessel circumnavigated the globe in command of her 19-year-old skipper.

the *Union* got along perfectly well with yellow paint.

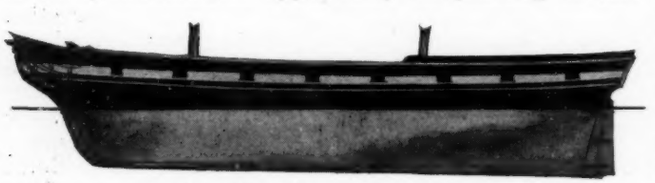
But even at that time the design of ships was tending towards the elimination of poop, quarterdeck and raised forecastle, and galleries and heads were being simplified, with corresponding effect on painting designs. Stripes and bands remained in use, but were fewer, and in the early part of the nineteenth century a common method was to paint the topsides black, with a white portstreak and black painted ports, man-of-war fashion. A large ship might follow the style of a frigate, whose main deck battery was indicated by a broad white band a little wider than the whole height of the port, and checkered by the black-painted portlids. A variation in pattern was used in some sloops-of-war when the smaller size and lower freeboard, together with the placing of the battery on the spar deck, would have brought a wide streak too



Ship *Messenger*, of Salem, 1805. Stripes and bands still in use, but fewer.

close under the rail. Under these conditions the white band was painted from just below the port sill up to a third or a half of the height of the port, and a narrow stripe of white was added just below the wider one. Port streaks were carried right around the head but stopped at the fashion pieces aft. At a time when our ships were frequenting seas infested by pirates, the appearance of being a war vessel was of certain value. The tradition of painted ports lingered on with the British steel clippers of the Nineties, though many of them used gray between water line and port streak, with black above. Our own wooden clippers of the Fifties seldom had more than a single stripe of gold or color on their black sides — often not even that — though figurehead, trail boards and stern might carry carving and gilding.

Meantime, the forms of bow and head were undergoing a change towards simplicity. The average vessel of 1790–1800 was distinctly apple-bowed, though more or less gingerbread work somewhat lightened the effect, especially in profile. Progress in design steadily refined and sharpened water lines and gradually did away with the heavy cheek-pieces and head rails until, in the Fifties, a comparatively narrow trail board, with billet or figurehead, was the usual design. All these changes in detail naturally lessened the opportunity for painting effects.



Brig *Nereus*, Duxbury, 1829. Port streaks were carried around the head but stopped at the fashion piece aft.

(It is interesting to note that the Baltimore clipper, with her raking stempost and convex forward water lines, had a bow that was essentially of "spoon" pattern, though disguised somewhat behind stem piece and head work.) The square stern, from which the quarter galleries had disappeared, often showed cabin windows, and might carry a sweeping semi-elliptical decoration framing the whole composition. This was an opportunity for carving and gilding, though in many cases a flat applied ornamentation was used.

Colors used on spars were mostly black, white and bright finish up through clipper ship days. The buff tones seem to be more a characteristic of the later steel ships. Our frigates of 1812 had white lower masts, tops, doublings, and spar ends, with black yards and bowsprits. Masts on which yards travelled were left "natural" and kept well slushed with grease. The clippers sometimes varied the frigate practise by having the tops and doublings scraped and varnished, and a few carried black or bright lower masts. Yards painted white were common in the early part of the last century. The use of paint for doublings and spar ends, usually white, still survives here and there — notably, Down East.

From the point of view of the shipyard painter, the old-time vessel presented problems of color rather than of design. Instead of the smooth sides we have to deal with, he had the broad wales projecting from the sides and sweeping up at both ends, rails, drift rails, hances, head rails and head timbers, and all sorts of gallery and head details. With all this well defined construction in projecting or receding planes, his job was more or less analogous to that of a modern house painter who paints the clapboards one color, the trim another and the blinds a third. But in our modern yacht we have little of this aid. We have lost entirely the opportunities given in the old ships — when the various streaks and stripes swept forward to meet the construction of the head, and aft to the quarter galleries — and our problem is more concerned with surface decoration. We may have a slight offset at the line of the deck and the small projection of the hardwood rail; otherwise the body is as smooth as a smelt.

The racing yacht of the present day, with long sharp ends and little freeboard, offers delicate problems of her own — problems that our visitors from abroad seem to have studied and solved satisfactorily. One who has not had a chance to observe the boats can hardly take a dogmatic position, but Mr. Snider's article in the November issue of YACHTING gives an impression of real beauty, and leads to a tentative conclusion that for this type best results seem to come from the use of two well-chosen and properly contrasted colors (and this includes a natural wood finish) for topsides and underbody, with a well-marked boot top between, and a sheer stripe rather thin in effect. A broad stripe, or a double stripe at the sheer line, tends to spin out the apparent length — which may be quite long enough without this help. Sweeping up the water line at each end may add a little refinement, but should be studied cautiously — a little too much of it will produce the illusion of a peculiarly shaped bow.

An interesting pattern for a racing class — the colors to be varied as distinguishing marks for individual boats — was noted at the Victory Yard, at Squantum. This particular boat had a white underbody, Marne blue from the water line to about half her freeboard, and white above.

The high-sided, roomy cruising type, possibly with a wide square stern, offers an interesting field for study, and with her shorter ends, higher sides and increased deckhouse structure, is a problem of an entirely different kind from that of the long, lean racer. Here a broader stripe, or combination of stripes, may well be used to lessen the apparent freeboard, and a slightly raised water

line, with boot top, will help in this endeavor, as well as a water line sweeping up at the ends. With the bulkier cruiser it may be well to remember that white increases the apparent size, and that a fat white boat, with a fat white deckhouse, camouflages herself into an unnecessary corpulence.

In the matter of color for our surfaces, bands and stripes, if we look to old examples for precedent we need have little fear. The old boys were certainly unterrified and apparently used any color, if it were only bright enough. Captain Boit seems to have used almost everything except blue on his *Union*, but she may have had some of that on her stern. Robinson and Dow in *Sailing Ships of New England*, quote from a number of old records such items as, "a square sterned vessel painted yellow with carved work on her stern," "a new ship painted red," "a sloop with white bottom, blue stern, and cabin windows with white mouldings," "another with stern and quarters painted green," "a topsail schooner with brown bottom, and her quarters painted light blue." These notes are all prior to 1776. By 1805 a popular pattern was a broad yellow stripe painted on the black topsides just below the line of the deck. Our taste of recent years has been more sober, yet we have taken pleasure in the sight of a group of "Ginny" fishermen, in their fine raw blues, greens and reds. Perhaps the question is not so much one of the use of particular colors as it is of the arrangement of colors in peaceful neighborliness. This is largely a matter of taste, but some of the simpler hostilities of colors can surely be avoided.

Again, our forebears were, on the whole, content with primary colors — perhaps from lack of imagination — but with our highly developed culture much could be done with more delicate shades. Without trying to emulate the purveyors of female hosiery in their complicated spectra, we still might find something worth while among the tans, while other schemes are suggested by purples and violets. Experiments with greens — away from the darker tones toward those with more lemon yellow in them — or corresponding study of blues approaching cerulean, would enlarge the view of the field, even though leading to many rejections, and it will have been an achievement to have considered something other than our usual black or white topsides.

Following an earlier tradition of the painting of fishermen, the schooner yacht *Heart's Desire* wears a very pretty dress. Her underbody is a good bright red without boot topping; then a strong green up to the sheer line of the deck, capped by a thin pinkish stripe; the main rail is black with a white rail cap, and above this, from just forward of the main shrouds and running around the stern, is a low quarterdeck rail (if that is the correct name) of gray, with a white cap. Her deck fittings and house are white, and house roof gray. A black bowsprit, white booms, gaffs and doublings, complete a scheme well studied and carried out most satisfactorily.

The cruising ketch *Houqua* gives an illustration of a different kind of the adaptation of old methods to modern conditions. A descendant of the owners of the clipper ship *Houqua*, the owner wished not only to preserve the name of the ship, but to paint his ketch in a manner reminiscent of her notable ancestress. A square stern gave a good

Painting scheme of *Heart's Desire*. Underbody bright red, and strong green to sheer line, with main rail black.

chance for the applied decoration of old times, and her rather high freeboard took a broad white stripe on the black topsides. Her underbody is green, with a white boot top, swept up at the ends. Her white house, buff decks and house roof, and mahogany rail complete the color scheme. One idly wonders if it would have been brave, or only foolhardy, to reproduce the port streak worn by her namesake.

There are some minor details of decoration that might prove interesting studies. Instead of the usual arrowhead termination of the forward end of a stripe, could it have an upward sweep on the side of the bow with foliation, perhaps, and scroll, perpetuating the idea of older forms of bow and head? And at the quarter, where the galleries diminished into "quarter badges" on their way to extinc-

***Kotick* has a white underbody, Marne blue from water line to half her freeboard, and white above.**

tion, is there a suggestion in those old forms? Probably the answer to these questions is negative, as leading to results forced and affected. The writer is content to leave this to designers cleverer than he.

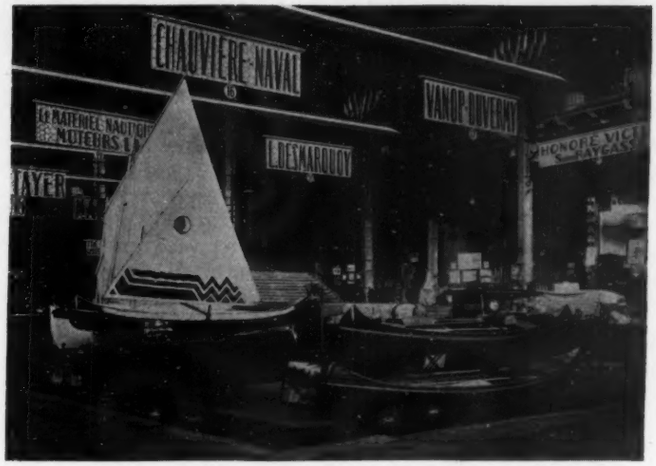
These notes, and the accompanying illustrations, are from the point of view of the artist and student rather than that of the naval architect, and the drawings, even when representing specific vessels, are diagrams and in no sense portraits, especially in the matter of underbodies. The problems referred to, and their possible treatment, have only been touched upon in a general way. But to one interested the old examples — and the possible adaptation of their schemes to our conditions — present a wide and pleasant field for study.

The square stern of the ketch *Houqua* gave a good chance for the applied decoration of old times.

The International Salon Nautique

An Interesting Account of the Recent Motor Boat Show in Paris

By WARWICK M. TOMPKINS



Canoes, outboard speedsters and sail boats all found a place in the Paris Motor Boat Salon.

BOATS, boats, boats! Cruisers, runabouts, racers, canoes, shells, barges, dinghies! Above them all the arched glass roof of the Grand Palais, which could cover a couple of Grand Central concourses. About them a crowd, whose steady murmur, rising in a vast drone, testifies better than anything else to the growing interest in yachting among the French. Outside, the Pont Alexandre III and the Pont Invalides are black with

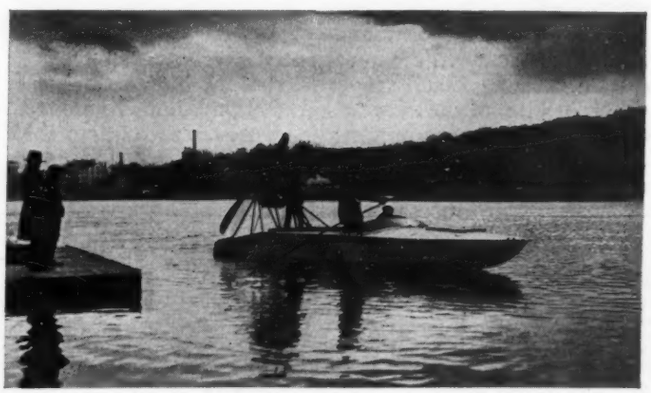
Chauviere's display of outboard boats with American motors.

people intently watching the glistening mahogany creations wheeling and darting back and forth on the once placid Seine. Such was the second Salon Nautique International held in Paris under the beneficent rays of a kindly November sun — a salon staged with all the consummate skill of Parisian experts and attended daily by tens of thousands of interested spectators.

France, lacking a congenial coastline, is naturally a country offering most to the marine motorist, but the Salon was in no way exclusively a motor boat show. It was a Salon Nautique, and every conceivable kind of craft found a place in the great left wing of the exposition palace. There were three good-sized cruising boats — one of them 40 feet over all — which certainly drew more than their share of interest. Hour after hour steady streams of show-goers boarded these craft, peering into lazarettes, testing bunks, and very evidently finding the idea that a boat can be a home extremely interesting.

By all odds the ablest of these three vessels was that designed by Janin and Company, of Aroyan, and named the *Alain Gerbault* in honor of the single-hander whose venturesome voyage has caught the imagination of a land-loving people. In this little packet there is evidence of much careful thought. Every inch of her 35 feet of over all length has been utilized, with the result that the *Gerbault* is able to sleep six, afford the cook a far better galley than I have seen on many a boat 10 feet longer, and yet leave enough cabin room so that moving about is not only possible but easy. Her overhangs are quite short, the water line length being 26 feet, while practically nine feet of beam would seem to indicate that a fair measure of speed might be extracted from 56 square meters (figure it out in feet for yourself) of sail area. This boat, complete, with teak decks, is offered at a sum that, to an American, seems ridiculously low.

Several novelties about the *Gerbault* are worth mentioning. One is the roller jib, English fashion, which is secured to a roller instead of a stay. The mast is stepped in a tabernacle so that the mariner, when so inclined, can lower his gaff-rigged stick, turn on his 10-horsepower motor, and chug along the rivers regardless of bridges. A radio installation, no bigger than a high hat, gives the cutter a wide receiving radius and also allows her to send for a hundred kilometers. Such a set may save many a small boat sailor from disaster! Just how the tabernacle would work out in a seaway this writer does not know. At first glance I was dead against the idea, but now I am wondering why, since they step the mizzens of yawls almost any place, an above-deck step for a main stick would not be just as practicable. On visiting the Peugeot cruiser, however, it did look mighty good to see a sturdy mast butt coming right through the cabin trunk and settling firmly in the keel.



A 100 h.p. Farman glider on the Seine, where the boats were demonstrated.

All in all, I liked the *Gerbault* very much and would like to take her cruising. She has a sweet sheer, a nice entry and quarters that looked to be fast and clean. And she is well built — copper fastened throughout and finished with that attention to nice joining and finish that is a sure indication of good craftsmanship.

Not far from the *Gerbault*, and like her setting all her canvas, was the Peugeot auxiliary cruiser, the center of an impressive display of Peugeot motors and motor craft. Marconi-rigged, but with a moderate spar, this finely finished, dark blue cutter was a much showier vessel than the *Gerbault*, although not — to my eyes, at least — in the same class with the other as a go-anywhere, stay-out-in-anything craft. Nor was the Peugeot boat as well arranged below. There was not half the room in her that the *Gerbault* afforded. Still, she would be a fine little vessel for day sailing, and, with her great amount of brass and bright work, she is an eye-filling little packet.

The third and last real sailboat was Victor Brix's mahogany cutter, shown in the accompanying photograph. Copper-fastened, with white pine decks, and a gaff rig, this handy little boat offers much sport to a crew of two or three, if full headroom is not an essential and one does not mind keeping the bunks warm. She costs, complete, surprisingly little, as compared with prices you are used to on your side of the water.

Although relegated to second place by the great interest in the "homey" little cruisers, the high speed boats and their little sisters, the outboard motor scooters, yet had many devoted adherents.

Crowds were found about the Voisin Hydro-Glyder at all times. Seating eight people in comfortable wicker chairs and driven by a 120-horsepower motor delivering its thrust to an air propellor, this craft reaches 60 kilometers an hour, while smaller members of the same tribe step up as high as 80 kilometers.

Built like a bullet, her varnish polished like a mirror, the *Sadi VI* exemplified in her slim and rounded length the last word in European speed boats. Close aboard her was the great bronze trophy offered by Lucien Rosengart and captured by the *Sadi VI* last year when she reached 106 kilometers an hour for what is claimed to be a world's record for the power. The *Sadi VI* is powered with a 180-horsepower Hispano-Suiza engine.

The little auxiliary cutter designed by Victor Brix exhibited at the Salon.

The 35-foot auxiliary *Alain Gerbault* exhibited by Janin & Co. proved a great attraction.

From the tiniest to the greatest, all of the outboard motor family was on display, and from the number of boats especially built for outboards that were exhibited nearby the agents for these popular American motors should have nothing to complain of. In appearance and finish these power plants seemed far more motor than any of their foreign competitors, and it was significant that many of the independent boat builders displayed their craft equipped with American outboards.

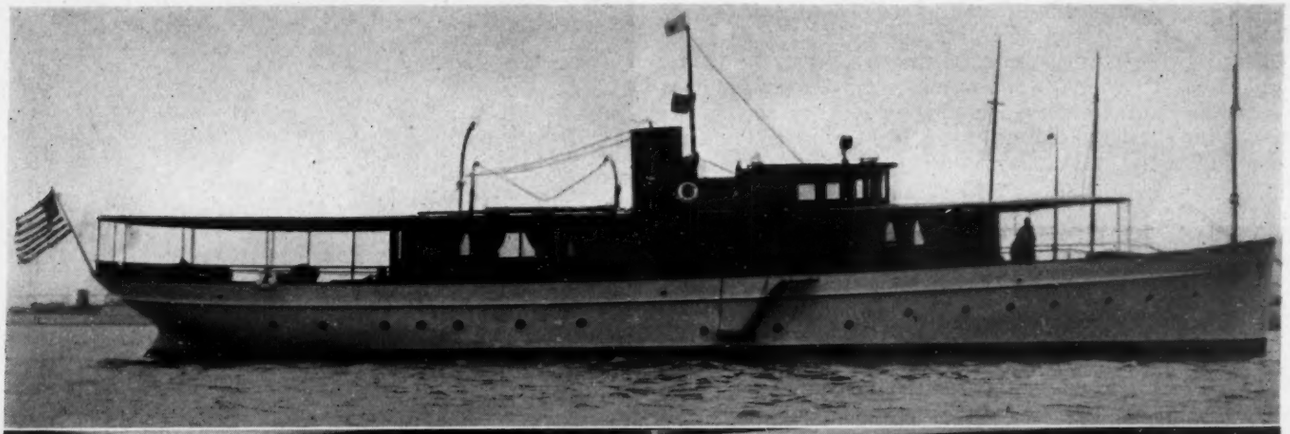
Deuzelette exhibited a fleet of fine little auxiliary craft at prices so low that they were almost unbelievable. How a 16-foot dinghy, heavily built and equipped with a neat motor, and a dipping lug rig, can be sold at the price listed I am unable to explain. But Deuzelette does it. At the same exhibit was a neat little runabout powered with a four-cylinder engine.

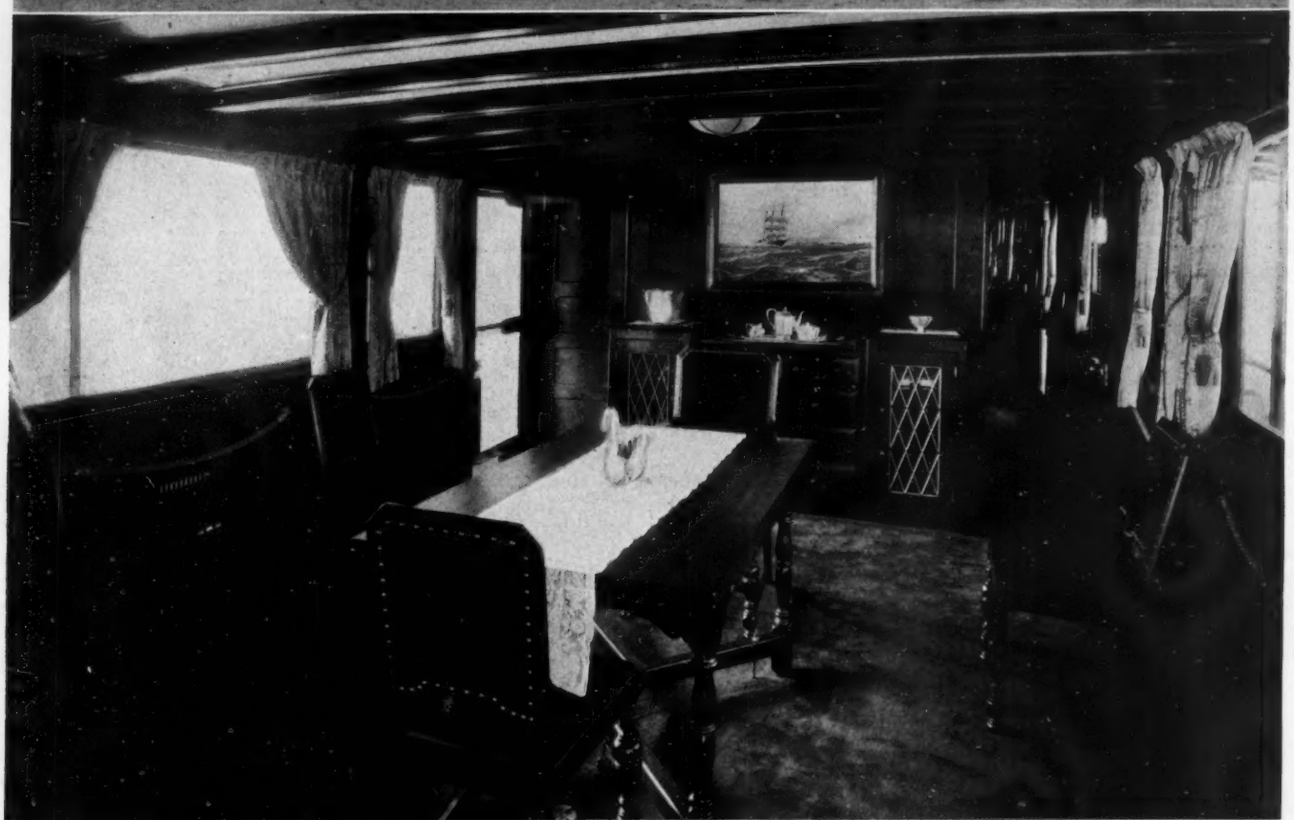
One of the bigger motor boat displays was that of Socna (Societe Centrale de Constructions Navales, Paris), who exhibited a trim cabin cruiser, 30 feet in length, procurable with either single or twin screws and single or twin Peugeot motors, roomy, pleasing to the eye, nicely finished.

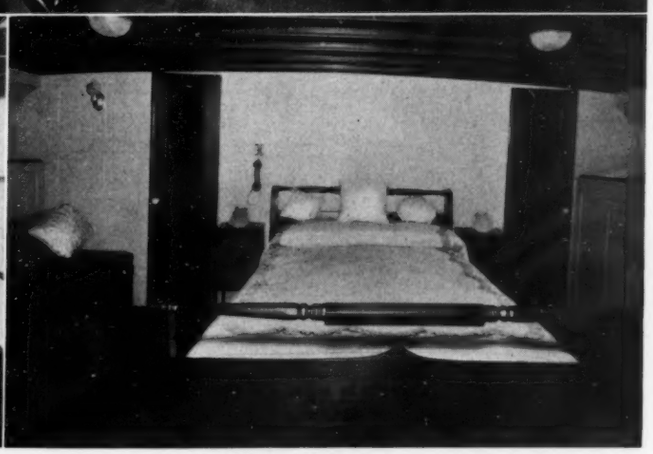
Rowboats, canoes, and shells were prominently displayed. Among the more interesting exhibits of this kind was that of Chauviere-Naval, who showed a dainty outboard scooter, and a half-dozen fine canoes. A comprehensive display of coastguard equipment and lifeboats, in the gnarled and capable hands of an old lifeboatman wearing the Legion of Honor Cross, together with 13 other awards, drew an interested public. A working breeches buoy, with its cannon, rockets, flares, non-sinkable boats, and other gear, was intelligently explained so that the landsman could get an idea of how the saving of life at sea is accomplished and under what

(*Continued on page 108*)

Rdream — A Great Lakes Power Cruiser







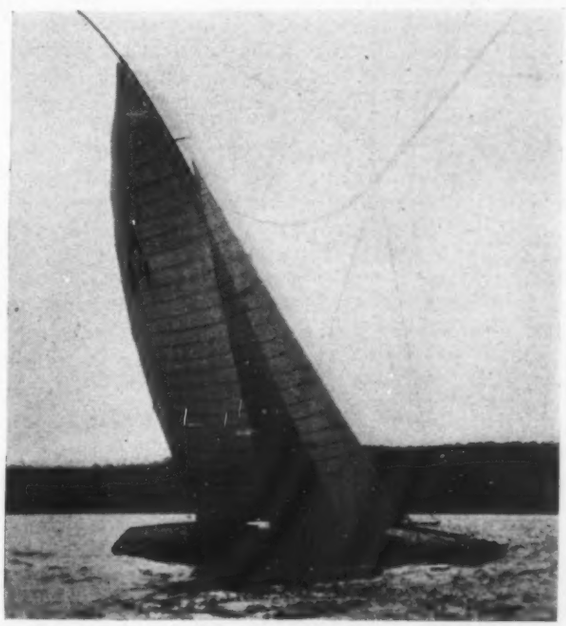
Some unusually able and handsome large power cruisers have been produced on the Great Lakes recently. An example of one of these is the *Rdream*, pictured above. She is owned by R. C. Vilas, of Chicago, and was designed by Henry C. Grebe and built by the Great Lakes Boatbuilding Corp. She has a spacious deckhouse, in which are the dining room, lounge and galley, while below are two double and one single stateroom for the owner. Her length is 103 feet. Two Bessemer Diesel 125 h. p. engines give a speed of 13 m. p. h.

A race for the German championship sailed on the Wannsee, near Berlin, 1927, showing various types of overlapping jibs.

The "Jib-Boom"

By Dr. Manfred Curry

THE latest experiments have demonstrated the extraordinary importance of proper cooperation of jib and mainsail. Both in the construction of airplanes having wings with slits, and by experiments with sails in the wind tunnel, it has been proved that the entire drive of sails and planes can be increased 50 per cent by the correct setting of the smaller plane, corresponding to the jib, in regard to the mainsail.



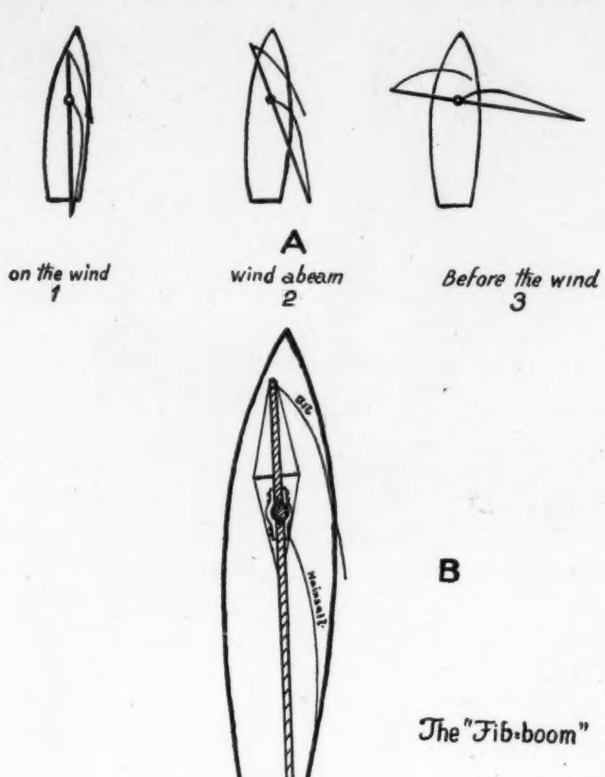
Trying out a jib set to a boom attached to the mast by a gooseneck, and operated mechanically.

The essential part of this improvement lies, as we know, in the fact that the wind off the jib does not fall on to the mainsail. We have not only learned how to avoid this fault, but we are now, in fact, able to increase the drive of the mainsail — or, to be exact, the suction of the mainsail — by accelerating the wind current in its lee. This acceleration of the air is caused by compressing it between the jib and the mainsail (a valve effect).

The experiments with airplanes (see article in Yachting, June, 1927) have shown that this double advantage of acceleration of the air and increase of the suction of the mainsail is especially great when the slit between jib and mainsail is narrow. In the last two years the greatest efforts have been made to attain this end.

The first step in this direction was to reduce the distance from the mast to the deck eye of the jib to one-fourth of

The author's latest boat, with bipod mast, and jib and mainsail set on a spar, which he calls the "jib-boom," extending forward of as well as abaft the mast. The jib trims to outriggers on the boom.



Sketches A and B, showing details of "jib-boom."

the length of the main boom. All modern yachts in Germany have adopted this improvement of narrowing the slit between jib and mainsail. The next step was to keep the wind off the jib from spilling on to the mainsail by the use of outriggers for the jib sheet, in connection with which one uses jibs which overlap the mainsail by one-third of their surface. These large jibs with outriggers are now being used by 60 per cent of the smaller German racing boats.

But the slit between the two sails proved to be too wide still, and so a device was constructed, the success of which promised to be astounding, but which could not be introduced generally because of mechanical difficulties. The jib is not, as usual, fastened to the deck of the boat, but is attached to the end of a boom, which by means of a joint or gooseneck, on the mast, can be *shifted to windward.*

This construction was tested on a larger yacht, shown under sail in the photograph, which made possible the use of a long jib of tremendous size, overlapping the mainsail considerably. As it proved difficult to get the luff of the jib sufficiently taut, another device was designed to serve the same purpose. By means of a runner on a track the tack of the jib could be shifted to windward. Such construction has two advantages. First, the slit is narrowed; second, the wind off the jib is kept from backwinding the mainsail, as the angle at which the sails are set to one another is more favorable. The success of this device was, however, doomed by its complicated and unreliable mechanism.

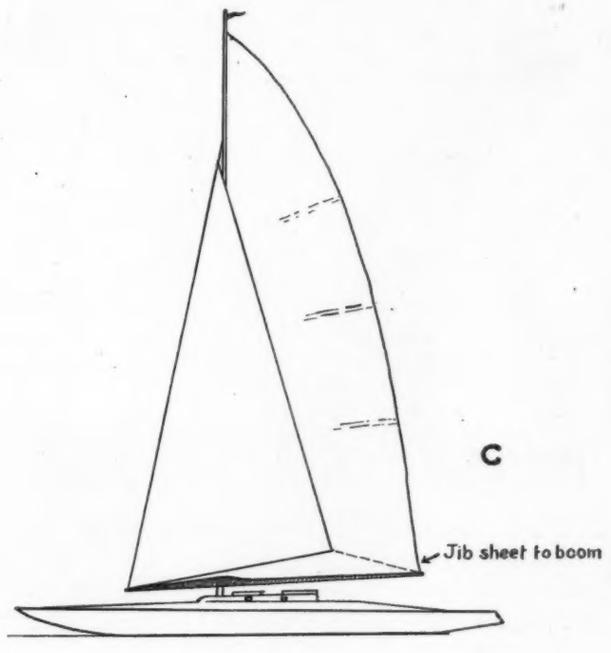
After many further attempts, all the advantages mentioned have at last been attained and the mechanical difficulties eliminated by the use of the so-called "jib-boom." (See sketches A, B and C.) This "jib-boom" is simply a prolongation of the mainboom forward of the mast. The jib is fastened to the forward end of this boom and therefore swings to windward the instant the main boom swings to leeward, thus attaining the desired narrowing of the slit and, at the same time, the correct deviation of the wind off the jib along the mainsail.

Moreover, this device offers further advantages. The spinnaker is no longer necessary in sailing before the wind, as the jib automatically takes its place in the proper position. Thus the whole spinnaker maneuver is done away with. (See sketch A-3.) And with the wind abeam the jib is always in the best possible position, and helps materially in preventing the breaking down of the air current in the lee of the mainsail. (See sketch A-2.)

In order to further simplify the tending of the jib, the jib sheet can be passed through a block at the after end of the mainboom. This causes the after leech of the jib automatically to assume its proper position in relation to the mainsail, without being tended, and thus the helmsman, holding only the mainsheet, controls both sails. (See sketch C.) Only when shifting tacks, the jib sheet is let go on one side and tended on the other.

The forward part of the "jib-boom," however, must be strongly built, as there is considerable strain on it from the pull upwards and sideways. (Sketch B.) For this reason this construction is thus far to be recommended only for smaller craft. The photograph of my boat with the bipod mast shows this "jib-boom" rig on the wind.

[NOTE.—Dr. Curry's book on *The Aerodynamics of Sails and Racing Tactics* goes very fully into the whole matter of obtaining greater efficiency in the design of racing rigs. It is now ready and may be had from YACHTING. —ED.]



The "Fib-boom" (side view)

The Rubber Tired Tramp

How Noise, Being Abhorrent to the Skipper of the "Tongangruve," was Eliminated on that Gallant Ship

By Capt. Abildgaard

He had always hated noise, the old choopraho, and they say of his bucko mate days that he had a rubber belaying pin made on purpose and would catch his man as he fell, easing him to the deck, thudless. This may be true, for even his wife admits that she would not put it beyond him, but when I came to know Captain Tattoon there was nothing hard about him except a certain steeliness that appeared in his eyes when some looby started the ash ejector against a beam wind, or a consignee tried to gyp him with Imperial measure. And he would slip out an oath you had probably never heard before. Otherwise he was soft spoken and mild mannered, a little rubber ball of a man whose whitish hairs had slipped down to an atoll that circled past his rufous ears and almost met the weather reefs of his crested eyebrows which joined in the little hollow under his benign forehead. But for those weather-red ears one would take him for a watch repairer who led a Bible class on Sunday. Even the end of his name was cushioned. He remarked upon it himself, chirping, "Those double o's work like a couple of compressors when you say 'em, don't they, now?" They did. Yet there was that bounce to them that kept you in mind of their owner's surprising agility. Yes, he may well have been a bucko mate.

Throughout the islands — the East as well as the West Indies, and all the bits of dryings that bespeckle the rest of our earth's warm middle — he was known as the Rubber Tired Tramp, a name, as you shall learn, that had ample stretch to cover his ship as well. A little spar-decked tramp, she was, built many years ago for the Danes but now under British registry and part owned by her skipper who was whelped, as he put it, in the cabin of a Grand Haven schooner on the Lakes, and fitted betimes to the capstan of a horned critter out of Salem.

"Born on the Fourth of July, according to the log, in 87 West and 43 North, which would be 'six chews from Halsted Street in a northeaster,' as those brick sailors used to say out there. But we might as well have been spang in the middle of Chicago for the racket the old man made with his horse pistol, and the dish pan when the powder gave out! I've dodged noise ever since. Why, I've even thought of pulling the yelps out of the dog watches and fitting mutes to the fife-rails." And *I'm* not sure but what he was half serious, at that. Still, he had her pretty much bung up and bilge free of anything in the way of needless sounds.

Bung up and bilge free, and he ruled his crew with eye and hand, while the *Tongangruve* made her way from port to port on balloon tires, as it were. Under easy steam, as he took only slow freights, her engine was gentled down to its node of low vibrations which came at a driving speed of a little over seven knots, while there was scarcely a thud from her propeller to be noticed unless you went aft and stood directly over it. Even then there was but a soothing "swoosh-swoosh" to it that made you think of an old crone stirring porridge. But when you walked forrad again it was as though you had left one of your senses behind you, that of hearing. Which you had, for all ordinary purposes. No bells were struck except in the ship's clock in the captain's cabin, and these were damped, nor was there the usual clangor in the engine room. Watches were changed as silently as thought — deftly, as though her crew automatically had tuned out its timpani and switched on a sense of time, together with a peculiar awareness of its skipper. As though Captain Tattoon had impregnated his ship with an aura of mental telepathy. Not that his was a dominating personality; rather he seemed almost self-effacing. Yet there were those surprising moments when you would swear that he had spoken — that your ears, unused to any sound but the subdued, almost effortless communings with the skipper in his cabin (you were not sure afterwards whether he had gammed in whispers or mere lip movings) had failed to register. The bosun, going forward to the manger, would suddenly wheel in his tracks — as though he actually felt the impact of the skipper's glance against the back of his head, or the seat of his pants if the old man was in a peckish mood — and glance up at the corner of the bridge where the owner's head appeared above the dodge cloth like a little moon with a pair of meteorites caught in its surface. Perhaps a ventilator wanted turning, and the twin orbs would apply an imaginary couple which, you would swear, could almost do the trick on its own, did not the bosun spring to action. Or a hatch tarpaulin was catching the breeze and needed relashing. Wasn't there something tugging at those slack lashings, other than a vagrant eddy? But before you had time to confirm your fleeting suspicion, the bosun was at it in a trice.

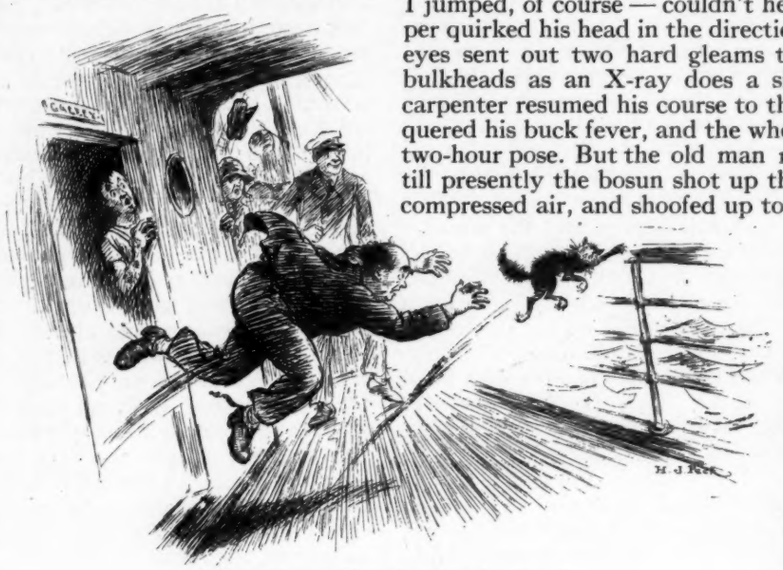
For all this, there was no feeling of restraint or tension about the ship. Her crew was made up largely of old hands who had reshipped with the skipper, some of them from his four-poster days, and they had so fallen into his ways that you would say the *Tongangruve* was manned by a crowd of dummies. Did a man want a light, his nearest shipmate directly would fumble in his dungarees with something of the deference of an ex-valet. Or was it a chew, and a plug would be tossed, bitten from and returned through the air as though it were all some part of an extravagant pantomime.

The old Punch had even gone so far as to remove the whistles from the speaking tubes, substituting tiny white pennants which fluttered distractedly as lung power was applied at the other end, while the engine room telegraph had been emasculated so that speeds were "rung" as silently as when a man in a stalled flivver moves the spark lever — but to far better effect.

Entering port, for instance, the old man would slow down the *Tongangruve* as snyly as a Rolls-Royce in the hands of a snorty chauffeur, and lose speed at the appointed spot where his eyes had placed an almost visible fix upon the water. Then his hand, with seeming nonchalance, deprecating, you would call it, would flop over the edge of the rail, and the bosun, catching the signal, would slip the brake bands — no screeching, mind you — while the mud hook furtively sought the water and retired to the bottom where it was craved by a wee touch of "astern." No rumbling of chain over hawse lip, with attendant cloud of rust while the ship trembled like a startled horse — just a silent deposit of ground tackle and she was anchored.

Yet there remained a potential source of noise, of the sort one cannot well escape on a steamer and which on a small one such as the *Tongangruve* seems to possess every plate and bulkhead in a veritable ecstasy of vibration when it is in being. This was the deep throated whistle that was designed especially for North Sea fogs and to befool other vessels into thinking that here must be some liner gone loco. It made the little ex-Dane fairly strut with importance. "*Say*," breathed her skipper fervently, "the first time I pulled that danged cord I thought I'd come afoul of the Devil's own G string, and the steam dropped ten pounds!" We were standing in the wing of the bridge at the time, and the old man turned to steeve a malevolent glare at the brass cylindered object reared up against the stack on its long neck of pipe, with a hatred that should make it cringe. But the whistle only stared back vacantly and dribbled a few more drops of condensed steam from its chinless underlip. It resembled a person who would blow bubbles at you when he talked.

"But I managed to hamstring the critter," he resumed, eyeing the carpenter who was fitting new rubber treads to the No. 1 boom ladder. "Of course, you've *gotta* have a whistle, but down here in the tropics there's not much in the way of fogs, and I'm rarely in the steamer lanes unless I'm crossing 'em. So I had the engineer rig up a bypass. You see that little jigger right under, looks like an Adam's apple? Well, that's it. And when I pull, just a hand width, the steam comes out of that bypass and makes a puff just's though the whistle'd blowed. One puff to starboard, two to port, and the other fellow knows what I mean, in the daytime. At night I always give the other fellow a wide berth, and if I *have* to blow, I just pull a little harder. That yanks the bypass over and the whistle gets the steam. Slick, ain't it?" And I'll swear that the hairs of the old man's back fringe rose derisively for a moment in the direction of the euchred whistle, and then laid themselves complacently again on their occipital resting place.



"The old man flipped a porpoise dive."

You see, I was passenger with the old man from St. Thomas to Colon, and being a new soul aboard and having come from the Lakes, he was particularly responsive. Taking the sea for my nerves and to recover my sense of humor from a spell in the navy during the war. That rather tickled him. After navigating a six-knot gunboat with an automatic piano and a punching bag trying to worst each other under the chart-room and an overhatted three-striper ranting orders every time he mounted the bridge, here was Heaven on the old *Tongangruve* whose very rivets seemed cushioned in rubber. It was the second day out and we smoked and chatted under our noses — I had already fallen into that soft spoken way of the ship — but mostly we communed in silence, only passing a word now and then to keep our thoughts parallel. Like a far off echo, the muffled bell of the clock in the cabin behind us tunked the end of the forenoon watch, and at the eighth tunk, a figure stole up and relieved the man at the wheel. The mate, sextant in hand, appeared from the chart room, turned the wrist of his free hand to signify that the chronometers had been wound, and prowled off toward the clear end of the bridge as though he were actually stalking the sun. "You're thinking," mused the captain, with a sly side glance at the grin I was trying to suppress, "that I'll be having Maxim silencers fitted to the sextants, next."

I was about to reply that something of the sort was revolving in my mind when all Heaven crashed about us to the sound of a door that was slammed. The carpenter who had belayed his job in lieu of chow, stopped transfixed on the middle of the No. 1 hatch, like a statue in a dry fountain. The Mate shivered as though seized with buck fever, and the wheelman stiffened his arms and hunched his shoulders in expectation of God knew what. I jumped, of course — couldn't help it — while the skipper quirked his head in the direction of the sound and his eyes sent out two hard gleams that would pierce steel bulkheads as an X-ray does a silk chemise. Then the carpenter resumed his course to the mess, the Mate conquered his buck fever, and the wheelman relaxed into his two-hour pose. But the old man remained, still glaring, till presently the bosun shot up the ladder as though on compressed air, and shoofed up to him.

"It's a cat, sir," whispered the bosun into the lee ear.

"A what?"

"A cat, sir. With a tail, that the new cook brought aboard, and he tried to jam it in the door. Like a game, sir. The cook's already missed him with a dollop of hot water, and he missed him again with the potato masher, but you were aft, taking the hum out of the patent log, sir, and didn't hear it." So saying, the bosun drew forth a huge bandanna and mopped his pearly brow. One could see that he was torn between loyalty to a shipmate and duty to his captain.

"But why in time," wheezed the captain, "did the cook bring it aboard if he hates it?"

"That's it, sir," confided the bosun, "he says he likes the cat. Says he's had it for a dozen years, and always takes it to sea with him. Seems it keeps him in mind of his wife, sir, always clawing at him, but he can't take it out on *her;* says she's too big. So he takes it out on the cat, and the cat thinks it's a game."

"A howl of a game!" hissed the captain. "We'll have to confine it."

At this moment, the steward appeared to give sign that our chow was ready, but the captain waved him off with a figure-of-eight motion which meant, "Belay it!"

Now the galley, as was usual in this type of ship, was athwartships in the bridge house, just forrad of the uptakes, with Dutch doors to port and starboard, and as we followed the captain down from the bridge, there came a strident, "Scat, you witch!" and a yellow streak shot out upon the deck but a split second in advance of a meat cleaver. The cleaver continued on, through the rail, and the cat sped aft where it clamped on the brakes at a safe distance and took possession of one of the quarter bitts. The cook, a spare little wisp of a man whose hair was dyed an unnatural black in contrast with his bloodless face, thrust his head into the alleyway and shaking a fist at his querulous pet, screamed, "I'll get you yet! You —"

"Softly, man, softly," interposed the captain, "you can't carry on that way aboard this ship!"

"No, sir," answered the cook, drawing into the doorway, "but you see, sir — "

"I've seen enough, and *heard* too much, what with the ship's gear going over the side and doors slamming and loud talking. That cat'll have to be confined and put ashore at Colon."

"But you can't catch him, sir, he's too quick!" ventured the cook, endeavoring to suppress a note of triumph.

"Can't catch him? You watch me!" flamed the captain who, as one old man from another, was accepting an implied challenge. "I'll get that Tom if I have to run him to death!" And he darted aft as though shot from a puffed rice gun. Which, of course, was the wrong thing to do.

"They were gesticulating wildly."

Though it appeared for a moment that Thomas would be nabbed through sheer surprise, for he seemed glued on the head of that bitt till his would-be pursuer was almost within hand reach, and then he was off, around the end of the house. The captain was hard after, as though another charge had been fired astern, and we cut through the galley just in time to see them flash up the bridge ladder, tail and nose, as you might say. The wheelman, we learned later, stuck out a foot to intercept the cat, but only got a claw in the calf for his trouble, and upset the captain who bounced off his middle with a ventral oath and whisked down the port ladder, having lost but half a length. It began to look as though the captain *would* run his quarry to death, for although he was old, so was Thomas, and there was little to choose between them in the way of speed.

Around again they went, the captain waving us clear of the galley as he passed. But that animal was ship-wise, and when the captain essayed a figure-of-eight through the galley, the cat doubled back and almost met him stern on. And the old man, being no slouch, flipped a porpoise dive that took Thomas all aback. Whereupon caution taking leave for immediate safety, the cat made a side spring that landed him atop the rail where he tried to gain footing on the sanded teak. But his metacenter was too danged low, as the old man put it, and poor Thomas slipped off, clawing desperately as he disappeared over the sheer edge.

"*Astern!*" roared the captain, primal instinct getting the better of him. But it was a frail chance, and though we stopped and lowered away, the old man himself putting off in the boat, there was nary a sign of the cook's pet.

"Young man," droned the skipper, over his belated coffee, "that cat knew I'd wind him in time, and he played a filthy trick jumping ship as he did." Not for a moment would he admit that sheer pique from another eccentric of his own age had led him into a rash adventure. Not he. That cat, flense his hide, *knew* he was in his ninth life and had taken a mean advantage of a peace loving skipper. Now there would be trouble and enough till the end of the voyage. As though in answer to these forebodings, the mate now appeared, serious of face, in the doorway.

The wind, he informed us — it was the trade and towards the end of the season — was falling off and rapidly veering to the southard. And the barometer had slipped down a tenth, to the calm season level where one may expect anything in the Caribbean. "What did I tell you?" arched the captain's eyebrows, while his free hand hauled taut an imaginary lashing, meaning, "Secure everything!"

"Aye, aye, sir," double-winked the mate.

Now contrary to your expectation, nothing much happened, beyond the thefty small-bustle of preparing for a blow, and the veering of the wind which settled in the southeast and piped up a respectable breeze abeam. Nothing, I say, except that the captain was perhaps less in hand, and went about with his back hair up, catlike, as though he had that Thomas on his mind. The afternoon passed, and the yelpless dog watches, and I stood the first watch with the old man. The night was moonless and the sky was overcast. And as there was no change at midnight, we turned in.

For an hour, perhaps, when suddenly the ship was aroused by the vibrant "Hoo-m-m-mmmmm — " of her North Sea whistle. A long blast warning someone, no doubt, that we were turning to starboard. But it kept up, and I made for the bridge, barefooted, in my pajamas, sensing that something was more than wrong.

The captain, also in his sleeping gear, was already there, and the mate in his oilskins, for the night was now thick with rain squalls. But instead of peering ahead for some other steamer, they were gesticulating wildly, while no hand was at the whistle cord. "M-m-MmMmMm-Mmm" came the groan, so that one could neither hear nor think, nor scarcely see, for that matter, beyond the faint penumbra of the binnacle glass.

"The *wind!*" shouted the mate, filling his lungs with as much of it as he could, to make the captain hear, "the wind's in the bight of the whistle cord!"

"T'aint strong enough, I tell you," bellowed the captain, using some of it himself.

Now a heavy gale abeam has been known to blow a steamer's whistle, by sheer heft of wind on the line. But this cord was not over long and the wind, while fresh, was in all conscience not strong enough to open the throttle.

To satisfy my curiosity, I reached up for the wooden handle. It came down reluctantly, as though something was pulling on it with considerable force. Then it eased, miraculously, and as I let go we were suddenly engulfed in comparative silence. There was only the wind in the

(*Continued on page 100*)

Deep Water Sailing

The First of a Series of Articles on Long Ocean Voyages for Yachtsmen

By E. G. MARTIN

THE editor has asked me to write about deep water sailing and in the notes which follow I will try, as far as my experience allows, to deal with the special problems which arise in this particular form of yachting. I feel that it is a great compliment that he should have asked me to do this, and I know that among the readers of YACHTING there are many whose experience may be greater than mine. I would ask these old hands to consider any suggestions I may make as being matters of personal opinion only, and not as an attempt to lay down the law upon a big subject about which there may be many opinions; and I hope that those others, whose long voyages are yet to come, may find here and there ideas which may be of use to them in the future.

Generally speaking, yachting varies greatly with local conditions. It would be very rash for a yachtsman whose experience has been gained in the waters on one side of the Atlantic to attempt to advise as to the management of yachts which sail on the other side of the ocean, where many of the conditions are different. But deep water sailing differs from coastwise sailing in that its chief characteristics are probably much alike all the world over. The climate and the normal sequence of weather conditions may change, but deep sea waves do not vary in character as do those of all the different seaboards.

There is one quality in which ocean sailing is quite different from any other form of yachting, and that quality is isolation. This isolation is a fact which must never be forgotten, either in preparing a yacht for a deep water voyage, or in handling her when she is at sea. The owner or skipper who asks his friends to set out upon a long voyage with him, and undertakes to provide a vessel which is seaworthy and well found in every way, incurs a great responsibility. I say "friends" advisedly, for whether his companions be amateurs or paid yacht hands, if a deep water voyage in a small yacht is to be a success, no relation other than one of friendship is possible between the members of the ship's company. The fact that some may be receiving pay and others sailing for pleasure only should be lost sight of when all on board have undertaken to do their full share of work. Occasionally one reads accounts of long voyages during which life on board cannot have been happy; and the reason, I believe, in almost every case, has been that the owner and skipper has taken to sea with him men whom he either could not, or would not regard as friends. On board ship discipline is essential to success; good discipline means a happy ship, and no ship can be happy unless there be the feeling of friendship in her crew.

Such deep water sailing as I have done has always been in small yachts of which I have been the master and owner. I have seldom employed more than two paid hands, and often only one, so that I can only write of the subject from the point of view of the small boat owner. The three yachts in which most of the passages were made were between 47 and 53 feet in water line length, and it is upon experiences in them that such conclusions as I have formed are based. Ocean voyages can be, of course, made in yachts which are far smaller, and one cannot but feel admiration for the men who sail vast distances in little boats. But these are no ordinary folk, and I must confess that the solitude and the absence of almost all those things which make life pleasant and comfortable are, of themselves, enough to prevent me from attempting to make such voyages. Moreover, I should not dare to face the risk of illness or disablement. Even such a trivial complaint as a sharp attack of lumbago renders the strongest man quite helpless while it lasts, and however careful a man may be, the possibility of accident can never be dismissed.

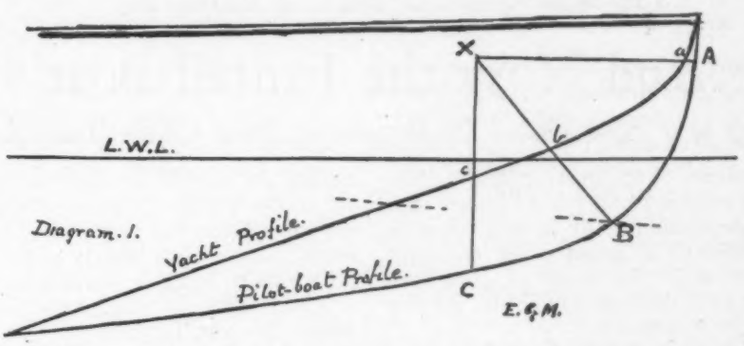
It is a curious fact that very long voyages are seldom made with a crew of two but are either single-handed or made in a yacht large enough to accommodate a proper working crew. The factor which seems to me to decide the size of the crew, and so indirectly of the ship, is time. Two or three men can work a ship on a passage lasting a few days, but double the number are needed when they will be at sea for as many weeks. A healthy man has a great reserve of energy upon which he can draw in emergency; he can work hard almost without food or sleep for two or three days, but at the end of that time he is "all in." For continuous work "watch and watch," four hours on and four hours off, is, I think, the maximum which he can do and remain fit and happy. This refers to work on deck and does not include cooking, in addition. It is best to have two men in a watch, and so I would suggest a crew of five as being the minimum with which any passage which may last for two or three weeks should be undertaken. The proper accommodation of five men and the storage space for provisions, water, and fuel, demands a boat of a certain size, and I should think that her length on the water line would be about 45 feet as a minimum. The maximum depends mostly upon the rig and the weight of the gear to be handled, and as a matter of personal choice I would not, I think, exceed a limit of about 55 feet for a crew of five all told.

Water line length is at best a vague indication of the size of a yacht and introduces the subject of type. On this point I must own that I am very conservative. No doubt this is partly due to upbringing, for all my early sailing was done in the West Country ketches and cutters which work the trawling grounds in the English and Bristol Channels. Thus one became familiar with the fishing smack type, which has a heavy displacement, a long straight keel rounded up at the forefoot to a straight stem, and a short counter stern. It so happens that, although they are different in model, the Bristol Channel pilot boats and the Havre pilot boats have the features which I have just mentioned as being typical of the fishing smacks. The Havre boats, of which *Jolie Brise* is a fine example, follow the smacks closely in profile, but many of the Bristol Channel boats were more cut away at the forefoot and have slightly over hanging bows. These are types which have been evolved through the experience of generations of men who have earned their livelihood in them under the hardest conditions, and for sheer ability at sea, and comfort in bad weather, I believe that the pilot boat type could hardly be improved. These boats have not the all-round speed of the lighter type of cruising yacht, but they are not slow. Occasionally, as in the case of *Jolie Brise*, one may find a boat which combines real comfort at sea with far greater speed than any one would expect in so heavy a vessel. Although I believe this type to be the best for deep water sailing, I have a great admiration for the type of cruising schooner which has been developed in America. Some of them are most lovely

little ships, but I fancy that compared with the pilot boat type they have one failing for deep water work — they are not heavy enough. Moreover, this lightness of displacement has tended to produce forebodies which have too little hold in the water.

I hope that readers will forgive my boldness in criticising the work of famous American designers; nine out of ten, at least, of the cruising yachts here have the same failing, and this is only a personal opinion given for what it may be worth. The essential quality in a yacht designed for deep water sailing is ability and not speed. Provided that she is weatherly, and absolutely dependable in all conditions of wind and sea, it seems to me to be far more important that she should be steady and comfortable in rough water than that she should sail very fast.

I believe that the secret of successful long distance sailing lies in handling the ship so that she may put the least possible strain upon herself and her crew. A skipper who is perhaps a thousand miles, or more, from the nearest port, and does not sail his ship with the utmost caution, is quite unfit to be in command of a yacht. Sometimes the temptation to carry on may be great; but it is worth remembering that in a short, heavy vessel hard driving does not bring an increase in speed which corresponds in any way with the additional strains to which she and her crew are subjected. In *Jolie Brise* it was most obvious that she would make about 6½ knots without the slightest fuss, but at 7½ or 8 one knew that she was sailing hard. This does not quite apply to running dead before the wind, for like most very beamy boats she sailed fastest when she was upright, or nearly so, and we found that when we were running down the trades under the square rig these relative speeds were increased by a knot, or perhaps more. She was capable of higher speeds; the best hour's run we ever made before a strong, steady breeze was 10¼ miles, and once when we ran her off before a very heavy squall in the Gulf Stream the log readings gave over 12 for a short time. On that occasion we had been caught napping and the ship just took charge and ran away with us. To yachtsmen who are young and who may be setting out upon a long voyage, filled with a justifiable pride in the ability of their ships and their crews, these remarks about caution may seem to be unnecessary. I would only ask them to bear in mind that long distance sailing is essentially a reliability trial and not a sprint.



As all practical yachtsmen know, the special advantages gained by designing a yacht with a straight keel and a good grip of the water at the bow are steadiness upon the helm under all conditions, and reliability when hove to. They know also that under all-round conditions a yacht of this form is not so fast or so quick upon her helm as one which has a short keel and no forefoot. I think that many people who have not sailed yachts of the older type believe that they are slower than is really the case, and overrate quickness upon the helm. For ordinary cruising, and for deep water sailing especially, provided a yacht is absolutely certain in stays, extreme quickness upon the helm is, I think, a real disadvantage. It means that she will not lie steadily when hove to, and it causes extra work when tacking ship.

In pilot boats, and in fishing smacks of 65 feet, and over, in water line length, even in hard winds no more than one man is needed to put the ship about. The helm is lashed a little a-lee, and the helmsman can walk forward and trim the jib and staysail easily while she comes round in a fine bold sweep. If he knows his job she is sailing nicely full-and-by when he comes aft to the helm again. This means a great saving of labor. Smacks and pilot boats are designed and rigged so that under ordinary circumstances they can be handled by one man on deck, and this is a point which I think should be kept in view in the design of all cruising yachts of small and moderate size.

There is no point in yacht design about which opinion differs more than it does upon the form and profile of the bow. I believe most firmly in having far more forefoot than has been given to cruising yachts for many years past. I am speaking, of course, of the general trend of design and not of exceptional cases. This preference is based upon actual behavior, but I think it is justified in theory as well; and although it is rash for an amateur to offer an opinion upon theoretical yacht design, I will try to state the case as it appears to me.

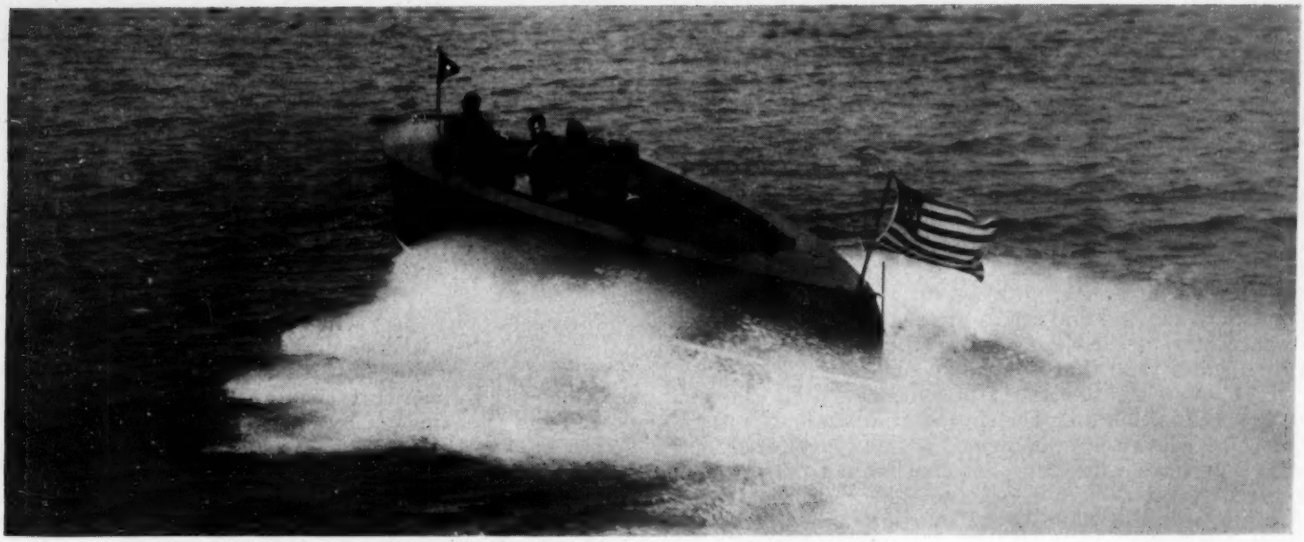
In the first place, I believe that designers draw their plans almost entirely upon the assumption that yachts sail upon a horizontal fore-and-aft plane only, a thing which as a matter of fact a yacht very seldom does when sailing in deep water. This assumption is all very well in the case of racing craft and of others which generally sail in smooth water; but when ocean sailing a yacht meets the water at all sorts of angles. Sometimes, when she pitches heavily, the forebody falls almost vertically. I cannot help thinking that if designers were to give more heed to the sections which a yacht actually presents to the water at all angles between the horizontal and the vertical as she sails in a rough sea, they would realize more than they do the need for a deep forebody.

There is a spot in the fore part of a ship, sometimes called the "shoulder." It is on the topside somewhere in the neighborhood of the lead of the jib-sheets. This is a point at which she will generally bring up when she is plunging. I know of no scientific name for it, and this description is vague; but sailors will know what I mean and the position is roughly indicated in the diagram. Now it seems to me that if a yacht is to have an easy motion in a head sea, meeting it as she does at many different angles, she should present approximately similar wedges of forebody at all angles of pitching. This she can do only when the wedges XA, XB, XC, are alike (see sketch), and to make them so the profile of the stem from A to C must be something like the quadrant of a circle of which the spot X (the shoulder) is the center. This type of profile is characteristic of many smacks and pilot boats.

A profile resembling that of many cruising yachts is also shown in the sketch, and here the corresponding wedges are Xa, Xb, and Xc. In this case the yacht, when she is pitching, presents an entrance which is quite unlike that which she has when sailing in smooth water.

I believe that it is most essential that a yacht should not lift her bow clear of the water, and in this the older type scores. When the water line falls to the level of the dotted line, the yacht type vessel shortens her water lines

(*Continued on page 94*)



The 38-foot *Fantail* doing 60 m.p.h. on Manhasset Bay.

And Now the Fantail Boat

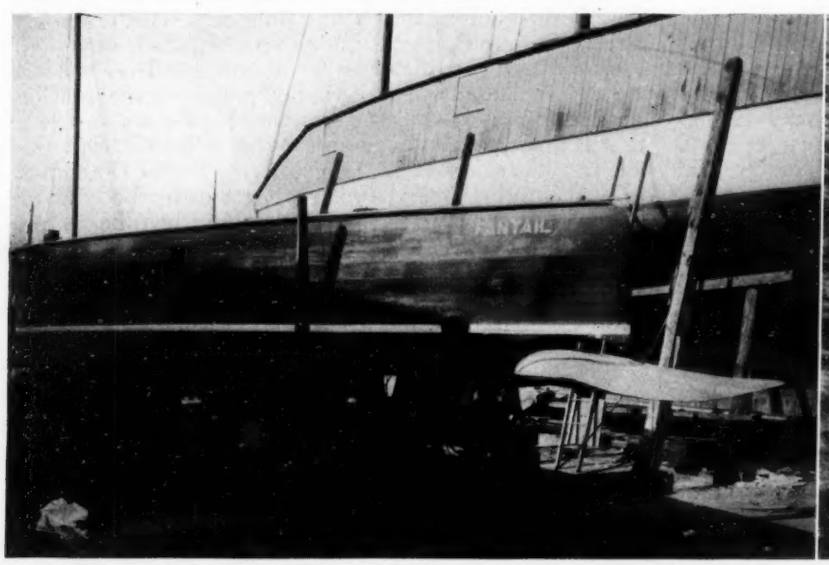
Trials of a New Device for Sustaining Speed Under Heavy Loads

LATE in November a series of interesting and highly successful trials were run on Long Island Sound in a 38-foot speed boat with a stern fin, or fantail, that is intended to solve the problem of speed while carrying heavy loads. The invention is the work of Johannes Plum, and was tried out in a 38-foot hull built for the purpose by the Purdy Boat Company.

High speeds in power driven craft have been developed through hull forms that have lifted out of the water as they attained speed, and this has been possible only with lightly built hulls carrying as light a load as possible. The carrying of heavier loads immediately reduced the speed. The aim of the inventor of the fantail was to get a hull that would lift clear of the water, irrespective of the load. To accomplish this he has fitted to the stern of this 38-foot, beamy, husky hull an adjustable fin, or fantail, from which the boat took her name. This attachment is shown in the accompanying pictures. By means of compressed air this fin may be set at any desired angle to lift the hull out of the water at varying loads. It is actuated by levers on the dashboard forward. The mechanical difficulties seem to have been largely overcome, and in the trials the fin seems to have developed no weakness.

The *Fantail*, in which the trials were made, is powered with a Wright Typhoon low compression motor. She is a large boat, as the reproductions show, yet she had no difficulty in climbing out and attaining very high speed with heavy loads. In her trials she was given various loads, carrying up to 4000 pounds of pig lead in the tests.

Running over a measured half-mile course on Manhasset Bay, she was timed from 29 seconds to 31 seconds for the distance, or approximately 60 miles per hour, while on Long Island Sound it is claimed that she got up to 63 miles per hour on somewhat longer courses, running on an even keel without any of the "trickiness" that usually appears at very high speeds.



The fin, or fantail, which lifts the hull. It is actuated by compressed air and can be adjusted for any load.

The fantail seen from above, with the boat at rest.

Steeple Chasing on a 12-Ton Yacht

An Account of the Most Unusual Experience of a Long Yachting Career

By ROBERT J. SCOTT

"She had taken her seven feet of draft across 50 feet of rubble wall awash in the breaking sea!"

BACK in 1909, a year of boisterous weather in New Zealand, the late Thomas Fleming Day presented a 50-guinea cup to the Otago Yacht Club as a prize for a 100-mile race for small craft. He thereby earned the enmity of my for'd hand, Sam, an old shellback, for I had entered my 12-ton cutter *Yvonne* for the event.

In view of her subsequent extraordinary performances, a somewhat full description of the yacht seems desirable. The *Yvonne* was built in 1888 by that master craftsman, Robert Logan, of Auckland. With the exception of mahogany deck fittings and rata wood floors, she was constructed entirely of Kauri pine, flush-decked with a low rail. The deck was broken only by a fore hatch, a skylight, and a small cockpit, at the fore end of which folding doors and a sliding hatch formed the companion.

Her hull was formed of three skins, two opposed diagonal layers, each 3/8 of an inch in thickness, and one fore-and-aft outer layer, 3/4 of an inch thick, all closely laid without caulking of any description. Her decks were of similar construction, but though deck beams were fitted there were no lodging or hanging knees, and no vertical frames or timbers, the hull framing consisting only of the usual shelf or clamp and two longitudinal stringers each side running the whole length of the boat. The hardwood grown floors terminated at the level of the transoms, giving a smooth inside skin without lining. All Robert Logan's yachts were constructed in this excellent fashion, giving increased internal room, lightness, strength, durability, and elasticity. This made for speed, but sometimes necessitated the vessel being eased to allow the opening of a locker door.

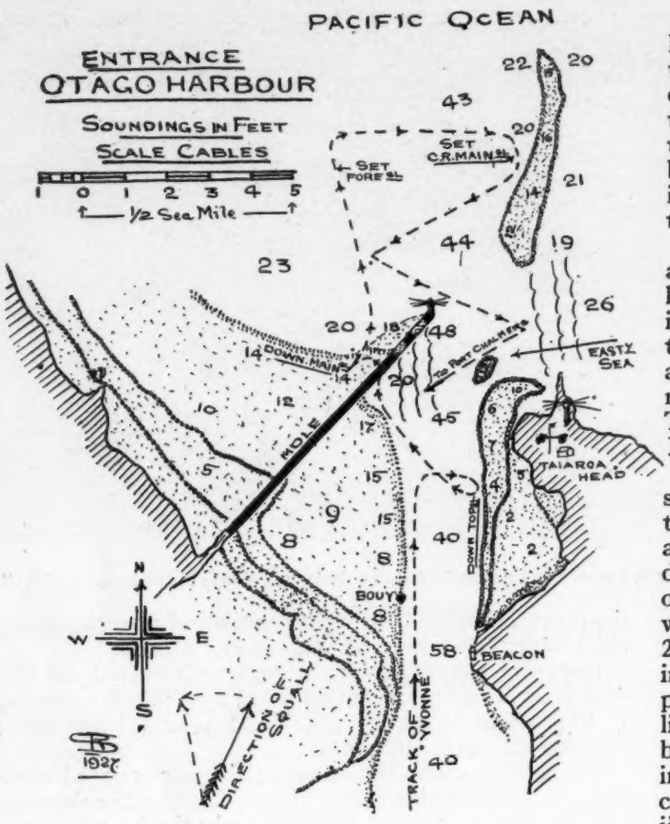
Yvonne was a great boat to windward and fast on all points of sailing, but owing to her fine ends, low freeboard and comparatively great draft, she was a dirty boat in a seaway, whilst the excessive rake of her sternpost helped to make steering a nightmare when running heavily at sea.

Her principal dimensions were: length overall, 44′ 0″; length l.w.l., 31′ 6″; beam extreme, 8′ 9″; draft extreme, 7′ 0″; ballast, lead, all outside, 5 tons (11,200 lbs.); working sail area, 1000 sq. ft.

The sketch shows the vessel as she was rerigged some two years before this race when, owing to a fire destroying the shed containing her gear, only the bare hull was left to me. Her sails and gear were thus in first class order but, to make sure of things, new running ropes were rove off and, as a short time before the Muntz metal keel bolts had been found to be rotten and had been replaced with Delta metal, I was doubtful of the condition of the Muntz metal dumps which secured the planking to keel, floors, and deadwood. The dumps were therefore reinforced by some 200 very heavy brass screws. It is probable that to these precautions we subsequently owed our lives.

Otago Harbour is some 230 sea miles from my home moorings at Lyttleton but, as the longest run without shelter is under 100 miles, the trip has usually been made without discomfort. On this occasion, however, I was short handed and the weather was such that much time was spent in way ports. Communications with the Weather Bureau were frequent, to the affected disgust of Sam, who, one evening at Akaroa, on handing me a telegram to the effect that we must expect northerly winds, strong, increasing to a gale after 16 hours, remarked, "Pity we ain't fitted with wireless, sir; then that bloke in Wellington could tell us when to reef the mainsail." However, when told to get the boat on board and make ready for going to sea that night he seemed to be of a different opinion, and was heard mumbling his ideas of a suitable end for the donor of the cup. They were certainly original.

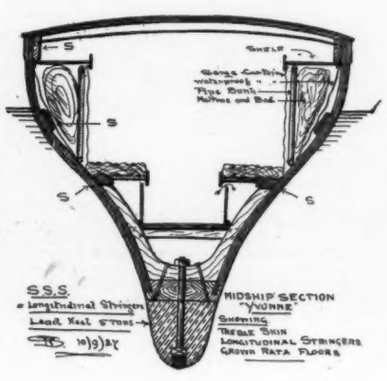
A brisk breeze took us outside but, unfortunately, died



away so that at daybreak we were only a few miles from Akaroa Light, with a rapidly falling glass and Timaru, the next port, some 80 miles distant. As the day wore on the breeze increased and noon saw us running at 5½ knots under lower canvas, and from 2 P.M. to 7 P.M. a steady 7 knots was maintained. At 8 P.M. it was necessary to heave to and harden down three reefs in the mainsail, the foretold gale having overtaken us. The sea was now breaking heavily and we were in discolored water. Finding it impossible to pick up the leading lights of Timaru through the driving rain, we went offshore on a S.E. course until we could safely bear away through the night for Oamaru, some 50 miles distant. We made that port at daylight, using a little oil when passing through the break at the entrance to the harbor.

While making off shore at Timaru *Yvonne* had given me a taste of her qualities in a seaway. I was going below to consult the chart when she pitched me from the companion step the whole length of the saloon — some 15 feet — without touching anything until I was brought up by my head coming in contact with the for'd bulkhead. A day's rest in Oamaru while the gale blew itself out was consequently much appreciated.

The next day the remaining 50 miles of our journey were accomplished in a reaching wind under topsail and balloon foresail, in ten hours, a most delightful sail with dry decks the whole way. My guest now departed for his home and I to my club in Dunedin, leaving Sam to superintend the slipping and cleaning and painting of the vessel. The course for the race determined on by the committee was from the entrance of Otago Harbour round a mark boat off Oamaru, 50 miles distant, return and finish at the starting line.



Otago Harbour has an average width of one and one half miles and extends from the heads some 14 miles to the city of Dunedin, which large vessels reach through a dredged channel. As the entrance to the harbor is barely two cables wide, it will be readily understood that on the three and one half knot ebb there is a very heavy rip in bad weather. This is often accentuated by the sea formed in the channel by a heavy break on the bar. Passage is then dangerous for small craft.

The entrance lies between Taiaroa Head on the east and, on the west, a mole or draining wall some 4000 feet long, running out N.E. from a low sandy beach. This mole is of rubble about 50 feet wide on the top, surrounded by the remains of the trestle work used in its construction and studded with old pile heads. The outer end of the mole has suffered considerably from heavy easterly seas. The accompanying plan, which also shows the track of the *Yvonne*, will make the situation clear.

It would have been hard to select a more treacherous spot for the start and finish of a yacht race, especially as the start was timed for 7.15 P.M. on Christmas Eve (dusk) and the finish might readily occur after nightfall. On the day of the race a sullen easterly sea was breaking heavily on the mole and occasionally on the bar; it was dead calm, with an overcast, lowering sky. The glass had fallen to 29.40 and was steadily dropping. There was, in fact, every indication of an approaching storm. Efforts to secure a postponement of the race or alteration of the finishing line having failed, my crew of five amateurs and old Sam being aboard, we were towed the six miles from our mooring at Port Chalmers to the Heads. There we found our competitors, a nondescript lot ranging from 15 to 5 tons, jilling about in a faint southerly air and light drizzle. We soon made sail — mainsail, No. 2 topsail, and No. 1 jib set, with No. 2 foresail in stops.

The Commodore's launch from which we were to be started was now making for the entrance, with the blue peter flying. The fleet of some eight yachts followed, running before a light fair wind. Suddenly all was commotion on the *Iarangi*, a 10-metre racer abreast of us. Hauling her wind on the starboard tack, she began to douse topsail and foresail. Looking back I saw a wall of cloud, spray, sand, and débris, flying towards us down the harbor. Jamming the helm down I reached across to the east side of the channel (there was little enough room to maneuver) and stayed to port to lower the topsail which was set on that side. We had hardly got this down when the blast was upon us. The jib sheet having been started, part of the sail went down wind like a puff of smoke and the vessel heeled down till first the rigging screws, and then the whole of the lee deck to the mast, disappeared under water. She tripped by the head and would neither pay off nor come right up in the wind, but practically flat on her side, trailing her mainboom — the water cascading from it — she tore across the narrow channel.

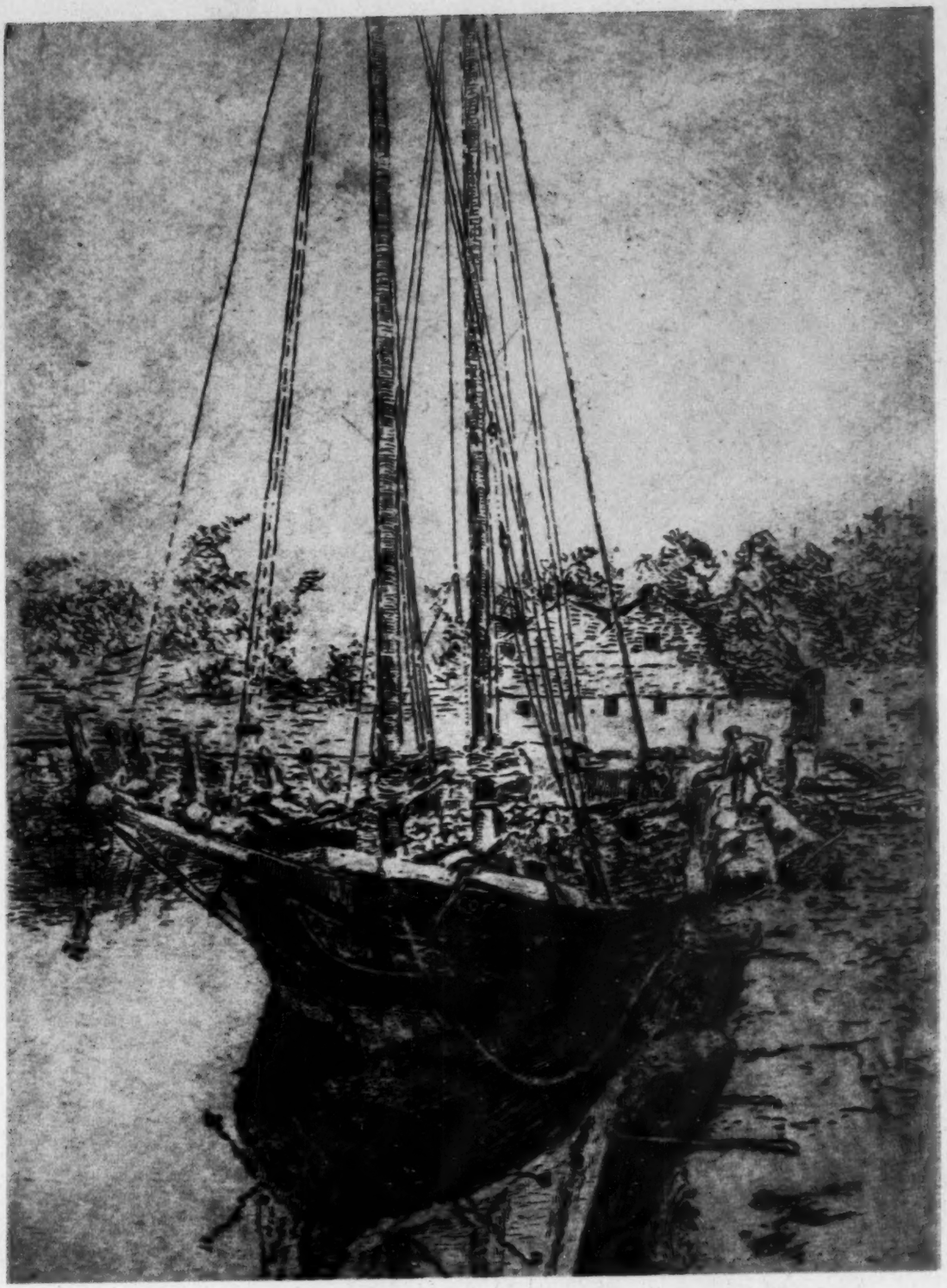
Suddenly out of the dust and driving spray the *Iarangi*, equally out of control, swept across our bows, missing a head-on collision by a few feet. Then came a wild cry from those for'd, "The mole!" Though by this time the peak purchase had been cast off and the mainsheet eased it was evident that she was not paying off fast enough to clear the mole, over which a tremendous sea was now breaking. At the last moment, with, I think, some idea of running the vessel up as far as possible, I put the helm hard down, and she struck heavily square onto the

(*Continued on page 92*)

THE LONG SEAS OFF CAPE HORN.

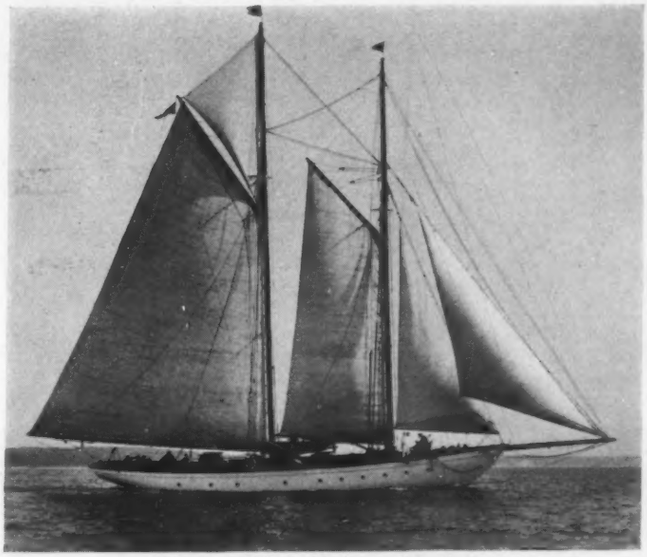
A TRICK AT THE WHEEL IN HEAVY WEATHER.

From photographs in *Sturmsee und Brandung*, Leipzig.



LOADING WOOD ON A COASTER, MATTAPOISETT.

From an etching by George Gale.



Schooner *Elise* with her original rig.

The same craft cut down for staysail rig.

A Cruising Staysail Rig

A Development and Simplification of the Racing Staysail Rig for Cruising Schooners

By Thomas D. Bowes, M.E.

So much has been written both for and against the staysail rig for schooners since the *Advance* brought one out three years ago that, perhaps, the type of staysail or jib-headed rig that I have developed may be of interest to the cruising schooner man. So far, this rig has been put into practical use only on cruising schooners, with one exception, that being the *Alice*, owned by the late Stuart D. Lansing. Several articles in Yachting have stated that the staysail rig required more crew and gear than the old rig, but our experience with it has been just the opposite.

In designing the first of these staysail rigs, for the *Tondeleyo*, the aim was to produce a rig of moderate sail area that could be handled by a small crew and one that would not require excessive spars that are expensive and always a source of anxiety when it begins to breeze up and get rough. Experience with several varieties of Chesapeake Bay bugeyes led me to believe that these sails should have certain proportions to give the best results. I had experimented with many sails between the masts on an 80-foot bugeye and the results obtained were rather astounding.

Elise on a reach, showing maintopmast staysail trimmed to traveler on spreader.

As an example, it was found that certain proportions of a diamond-shaped sail exerted but little pull on the sheet when on the wind, and would set very close. I also found that a triangular sail of the right proportions, set backwards, would stay fairly flat on the wind *without any sheet* and if the proper kind of battens and drawing string were used in the leech, it would set as flat as any other sail on the yacht. From this it seemed perfectly possible to produce what in reality was a two-masted sloop with four headsails that could be handled with a very small crew. One of the most difficult situations to contend with in a cruising schooner is the reefing of the large mainsail, but if a rig could be so designed that it was possible to take off separate sails to reduce canvas, rather than reef, the work of shortening sail would be simplified.

Another point that was of great importance in keeping down the size of the crew was to have the various sails self-trimming so that only one man on deck forward would be required.

With the above points in mind, I laid out the rig for the *Tondeleyo*, as shown in Fig. 1. It should be noted that this rig is lower and broader than the racing rigs of the same type, as the cruising boat has a heavier hull and equipment and less outside ballast, so

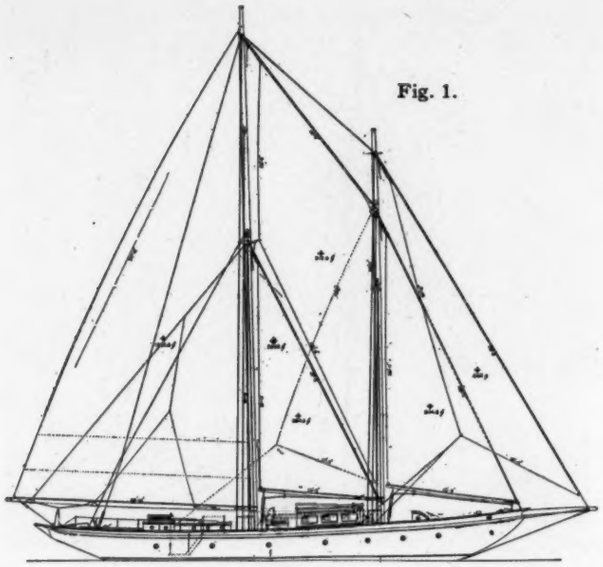


Fig. 1.

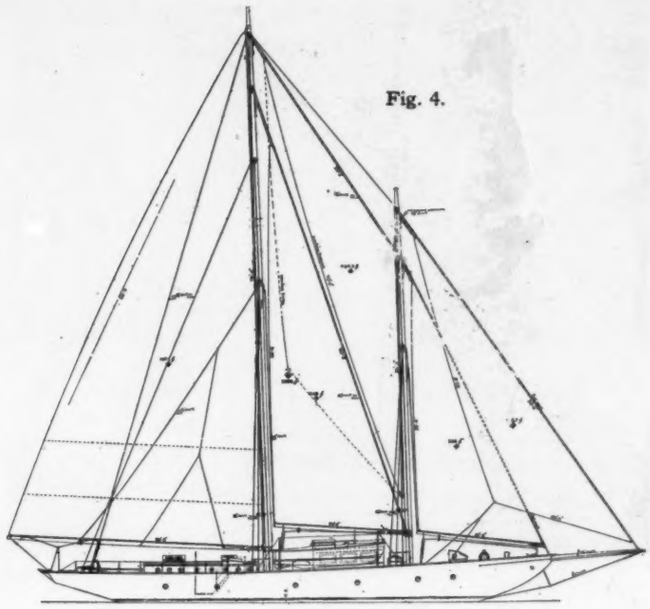


Fig. 4.

a lower center of sail pressure is desired. This allows of shorter and less expensive spars.

To make both staysails self-trimming was not an easy matter. It was decided to make the upper staysail quite large so that when it was taken in the boat would be under snug canvas. For this reason a large double triangle or diamond-shaped upper staysail was laid out with the lower luff fitted with snap hooks to a jackstay on the foremast and the head, with a steel luff rope, set flying to the mainmast head and the sail trimmed to a traveler on the main spreaders. To support the spreaders against the expected strain on the traveler the shrouds were carried down through the spreaders. This strain, however, never materialized as the pull on the sheet was never heavy. In fact, the blocks were taken off this sheet and only a single part used to trim it. To get this sail to flow properly in running off the wind it was necessary to ease up on the tack of the upper staysail at the foot of the foremast.

This type of staysail, when properly cut, set and fitted with battens, will set as close on the wind as the headsails and does an enormous amount of driving. It can be seen by studying the sail plan that it is possible to get a large spread of canvas on short spars, have all the sails, with the exception of the jib, self-trimming and to shorten canvas very quickly by taking in the large upper staysail.

This rig also provided a nice discharge of air on the leeward side of the after sails to get the increased driving power from the vacuum on the back of these sails. This is well illustrated in the picture taken astern of the *Elise*, close hauled.

For those not convinced that this particular development of the staysail rig simplifies the handling of a schooner, the following information will give plenty of food for thought. Several years ago, I designed the cruising schooner *Elise* for Commodore Frank Bower, of Philadelphia. Last spring it was decided that a new suit of sails was needed. The suggestion was made at the same time that the rig be changed to one like that of the *Tondeleyo*, as I was convinced it would make her faster, more comfortable and easier to handle with a smaller crew.

By looking at Fig. 2, the original rig can be seen. It will be noted that in this rig the masts and topmasts were all in one. The new rig is shown in Fig. 3. Here is a list of what was eliminated by the new layout.

(*Continued on page 102*)

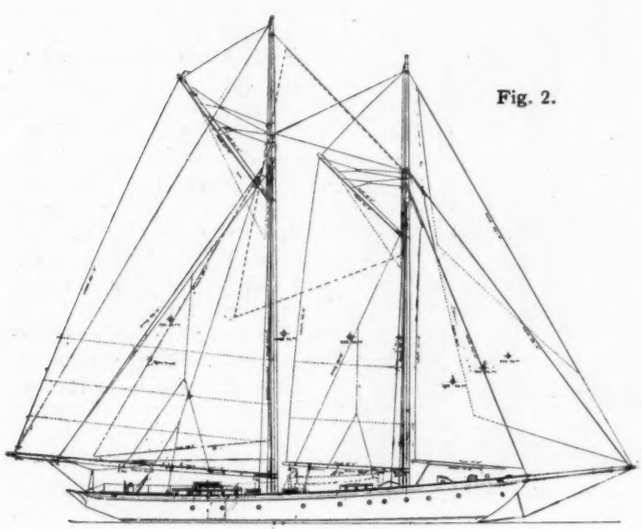


Fig. 2.

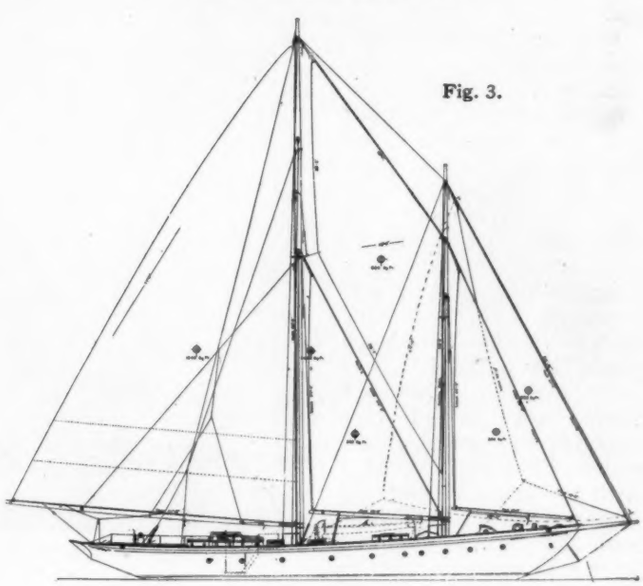
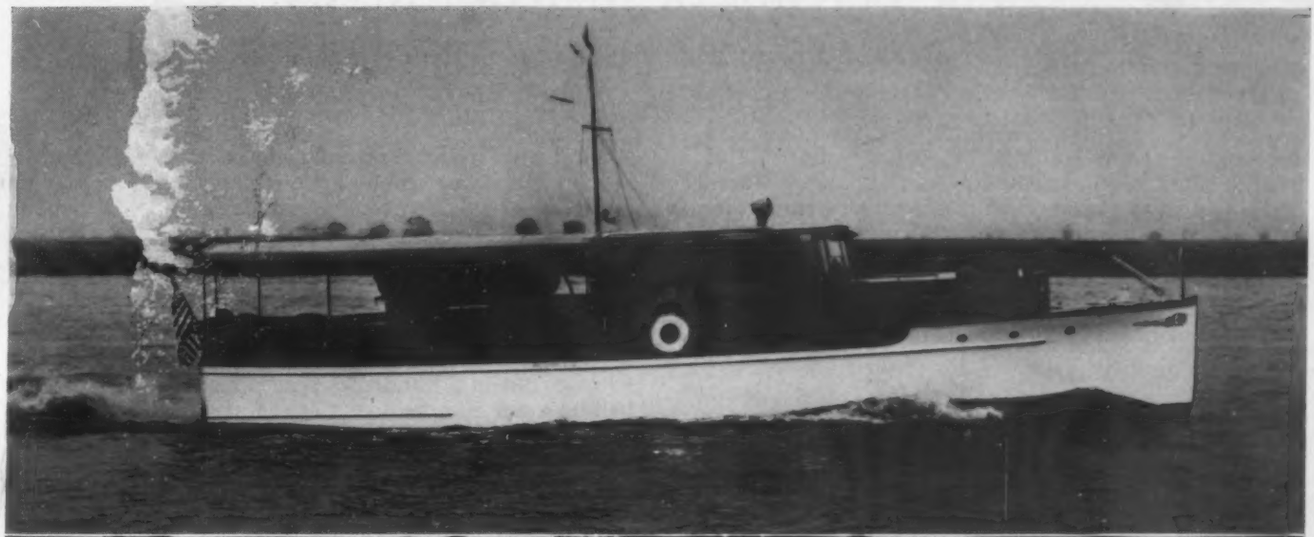
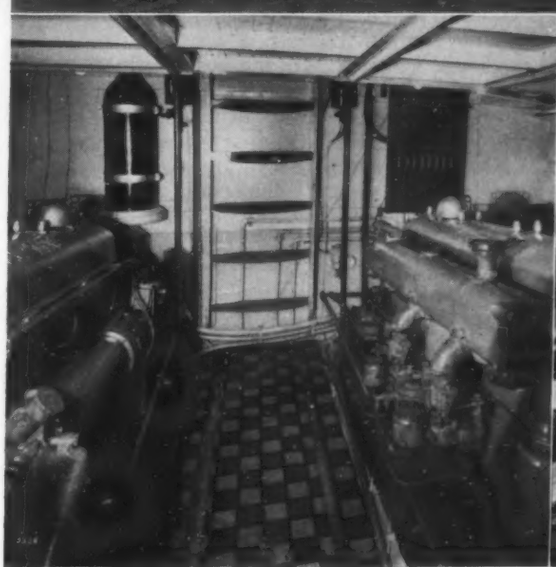


Fig. 3.

Lorna Doone, a 54-Foot Twin-Screw Motor Yacht





Photographs by M. Rosenfeld

A new A. C. F. standardized motor yacht is the 54-footer shown here, this particular boat, the *Lorna Doone,* being owned by H. C. Dechant, of Newark, who will use her this winter for cruising in Florida. Not only is she handsome and pleasing to the eye, but her accommodations are most carefully thought out and attractive. The deckhouse is roomy and "livable," while there is a dining saloon forward and two double staterooms aft — unusually generous quarters for a 54-footer. Two 100 h.p. gear reduction Hall-Scott motors give a speed of 16 m.p.h.

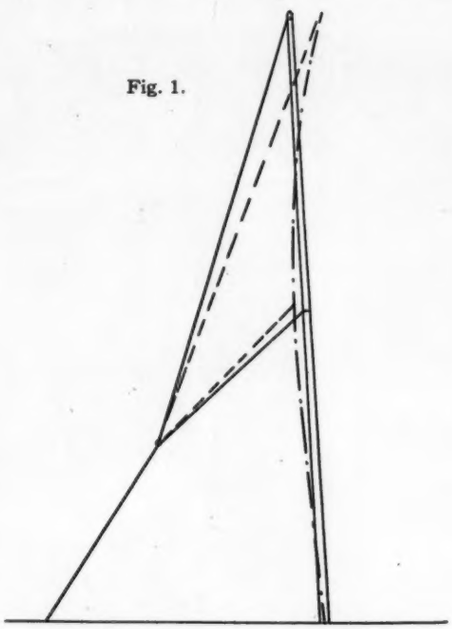
The Staying of Marconi Masts

A Study of Strains and Stresses in the Modern Rig

By C. O. Liljegren, N.A., M.E.

Foreword. — There seems to be, in the United States, at least, a slight misunderstanding of the name "Marconi" as applied to the masts here treated, one writer going so far as to state that the name could just as well be "Edison" or "Morse." This statement is erroneous, the name being derived from the well-known tall masts of the Marconi wireless stations. As far as it can be traced, the name Marconi was first applied to the masts of the 12-

Fig. 1.



metre international yacht *Istria*, in England, for this reason. Until recently there was a paragraph in the International Racing Rules to the effect that the lower masts must be *solid* for all racing yachts of 12-metres and over, whereas the topmasts could be made *hollow*. This necessitated an elaborate system of stays and trusses (spreaders) to hold the weak topmast in place, although this aim was seldom attained. Hence the mast, and the mast alone, should be called Marconi (as in these articles). The correct name of the complete rig is "Bermudian," or jib-headed, as we commonly call it here. It is probable that the triangular sail without yards was used as early on Cheasapeake Bay as in the Bermudas, but the latter locality developed it more fully, and deserves the honor of giving the name to the modern rig. In passing it may be mentioned that the native Bermuda sail always used a sprit for the boom, and only in this manner can the sail be made as effective as a gaff sail off the wind. For the best windward work the sprit must be of special pattern, however.

IN articles in previous issues of YACHTING we have found how to calculate the thickness of a single shroud when the stress is known, and the relative thicknesses of two or more shrouds when the arrangement is known. We have shown that it is impossible to calculate the strain on each shroud when more than one is fitted to each side, except on the assumption that the mast is sawed through at each shroud. This will be readily understood if we consider a shroud screwed up tighter than the rest, in which case it may have to carry all or most of the strain. We have also found that there are both bending and compressive stresses in a mast, and that in bending the fibers of the lee side of the mast are in compression. A mast may fail through bending if the shrouds are very slack (an unpardonable sin) but contrary to the general belief, a mast never fails from compression alone, *i.e.*, when doing duty as a strut alone, as in a model yacht. In 99 cases out of a hundred a mast fails from the *combined* bending and compressive stresses, the former setting up compression on the lee half of the mast section as mentioned, and tension on the other half of the section.

As there is already a compression in the entire mast from the shrouds and stays, we see that the mast cannot be allowed to bend much or it must fail. To aggravate the matter, the compressive strength of wood is always less than the tensional strength. Of the lighter wood species spruce has the highest compressive strength (7200 lbs. per sq. inch) and is thus admirably fitted for spars of all kinds. Pitch pine is stronger still, but is also heavier than spruce, yet many a narrow yacht of great stability, as for instance the British plank-on-edge, could use only pitch pine for her mast, always getting the best of any other wood.

So far we have considered only the shrouds, but the fore and aft stays are equally important, although not subjected to as great strain as the shrouds because of their larger spread, or angle with the mast. The stresses in the forestay are evidently greatest on the wind, and the stresses in the backstays are greatest off the wind. In windward work the mainsail is sheeted hard home and the pull of the main sheet, together with a small part of the strain in the aftermost shroud, causes a heavy strain in the forestay. This is only as it should be because no foresail or jib can do good work unless its stay is perfectly taut. Yet here again we see many small yachts fitted with a topmast stay over a long strut, the weight and windage of which makes the yacht lose many minutes in going to windward, to say nothing about the loose jibstay in consequence. And then the owner wonders why his yacht cannot win races. If a topmast stay is needed to stiffen the mast, by all means let it take the form of a jackstay or jumper stay from masthead to mastband, with a short strut just where the forestay joins the mast. A Marconi mast must never bend in a fore and aft direction because it makes the sail baggy in two places, separated by a ridge from the forestay band to the end of the mainboom. This ridge breaks up the streamline flow of the air along both sides of the sail and reduces the driving power of the sail to a certain extent, whereas, if the mast bends sideways, the sail follows suit and no harm is done so long as the mast is not overstrained.

The rigging of no yacht is complete without backstays, or preventer stays, as they are usually called, and on the quick handling of them hangs the fate of the mast at every hard jibe. In small boats and yachts, jibing is a comparatively easy job because the mainsheet can be hauled in hand over hand until the boom is practically amidships, and paid out as easily after the jibe. This is impossible in the big single-stickers such as the America's Cup yachts and the 23-metre yachts, the mainsheets of which cannot be flattened down before the jibe but are let go with a crash, when the mainboom strikes the water, sometimes

cascading it mast-high. There is no grander sight on the sea nor a harder test of seamanship than such a jibe round the mark on a windy day. Woe to those who are a split-second too late with the backstays.

Formerly there used to be two backstays on each side, one pair leading from the top of the topmast, the other from the hounds. Naturally the work in jibing was made still harder thereby. But lately recourse has been had to a single backstay on each side, divided half-way up into two stays — one from the top, the other from the hounds. With this plan a smaller crew is needed for handling the backstays, but if the manner of rigging such backstays is not correct they are worse than useless. Sometimes one sees both the upper stays, made in one piece, simply passing through a thimble spliced to the lower part of the stay. Fig. 1 shows what happens in this case. Apart from friction between the rope and the thimble, there is practically the same strain in both the upper parts, and the lower stay extended would divide the angle between the upper stays in two equal parts. From the foregoing it is evident that the uppermost stay does carry very little load and that the mast must bend as shown by the dotted line. The more the mast bends the less this stay can support it, and ultimately the mast must break. Hence, if backstays are divided, the uppermost part should be spliced or otherwise well fixed to the lower stay to prevent slipping, and the whole carefully adjusted in order to keep the mast as straight as possible under heavy strain. It is also evident that the lower stay must carry the same load as both the upper stays carry together, and must have the same strength. This means that such a backstay, with bridle, does not weigh more than a single backstay if correctly proportioned, just as we found the case to be with the shrouds.

We may conclude that no matter how many shrouds and stays are fitted in the rigging of a yacht, the total weight will be practically the same if each part is strained to the same intensity by being correctly proportioned. For instance, the upper stay in the backstay bridle should be made lighter than the lower part of the bridle, and the load that each has to carry can be found from the formulas here presented.

But even a single pair of backstays that must be shifted with every tack or jibe means a good deal of work and anxiety to the crew. This situation persisted until the Swedish yacht designers suddenly brought out a single backstay fixed like a forestay to the centerline of the yacht. I do not know who first conceived the idea — a stroke of genius — but it was made possible by the extreme development of the Swedish Skerry Cruisers, misnamed because they were more extreme and useless than any pure racing machine that had preceded them. Their length, for a given sail area, had been increased to such an extent that the after end of the mainboom sometimes came *forward* of the rudder. What with the triangular Bermuda mainsail and no gaff to obstruct the way, the single backstay was a logical conclusion, but a mighty hard conclusion at that. Shrouds and backstay always used to come in pairs on shipboard and everybody knows how hard it is to change the custom of centuries. Due credit should be given those designers; hence, let me suggest naming this single backstay a Swedestay in order to distinguish it from the ordinary backstays in pairs. The latter have to be shifted, as we all know too well, but the Swedestay is never touched, and for this reason has been almost universally adopted on racing yachts under every rating rule. The one drawback of this stay is its tendency to bend the mast, but, as mentioned before, this can be overcome by a jumper stay over a strut.

Now let us first consider the most suitable rigging for a Marconi mast as here laid down, and then an actual example will be given of how to estimate the different stresses of the shrouds and stays that fulfill these requirements.

Not so long ago it used to be said that the single mainsail of the catboat was best for windward work. Still, the jib and mainsail rig was evidently better in running and reaching, and prevailed for this reason. Lately experiments performed at Massachusetts Institute of Technology, already mentioned, and by Dr. Curry, have proved conclusively that the jib, even in windward work, furnishes twice as much work per square foot as the mainsail. Thus if the jib has an area equal to 50% of that of the mainsail, each of them furnishes half the power that drives the yacht forward. It would be wrong to assume that a still larger jib would give a better result because part of the efficiency of the jib comes from its increasing

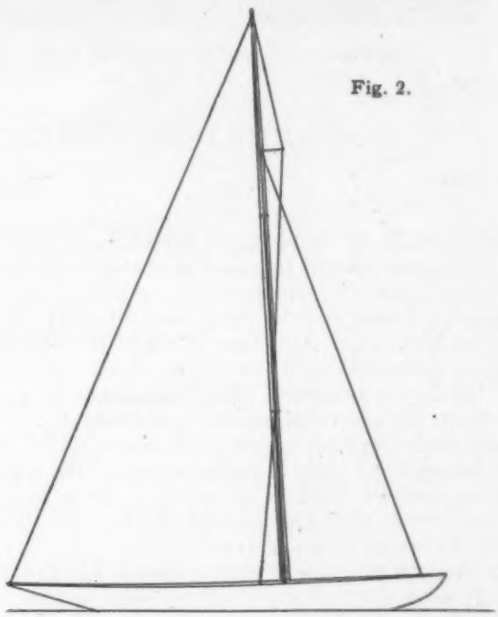


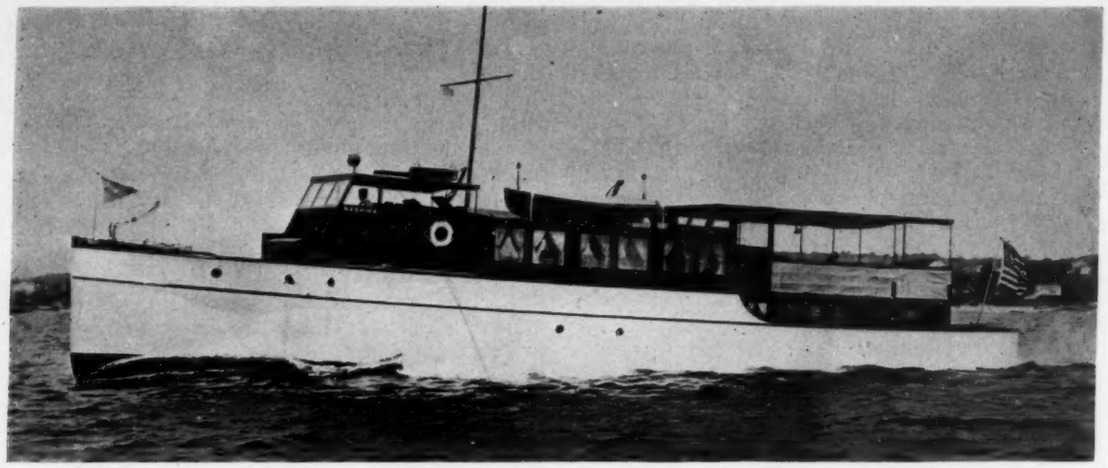
Fig. 2.

the drive of the mainsail, by reducing the eddies on the leeward side, and as the latter is reduced in size, the efficiency of the jib is thus reduced too. The aforementioned experiments were made in a yacht with a relatively small jib — hence the high efficiency — and recent trial races on both sides of the Atlantic, of yachts with tremendous jibs, seem to corroborate the conclusion here reached.

Reasoning thus, we can now develop an ideal sail plan with the jib about half the size of the mainsail. The height of the jib will be a little more than three times its foot, and that of the mainsail something over twice the length of the boom. This fixes the position of the forestay on mast and fore deck. If we choose two spreaders on each side, the positions of the shrouds are given, and the place for the Swedestay is, of course, at the extreme end of the counter. There remains only the jumper stay with its strut just below the forestay, and the length of the strut at least ⅛ of its distance below the mast top. Fig. 2 shows this ideal rigging plan, drawn to scale.

For our example we will take one of the now popular 10-metre yachts, International Rule. The first thing to do is to find the maximum moment of stability, approximately at least, by multiplying the weight, or displacement, of the entire yacht, including crew, by the metacentric height when lee rail is awash. The moment thus found represents the stresses in the rigging at a steady angle of heel and must be multiplied by two to allow for sudden gusts, the effect of which is to double all rigging

(*Continued on page 84*)



The high-speed cruising houseboat *Nashira*, equipped with vibration eliminating rubber pillow blocks.

Eliminating Vibration in Motor-Driven Craft

By J. T. Rowland

A METHOD of doing away with the vibration of high speed motors in power boats has recently been tried out with results said to be highly successful in the cruising houseboat *Nashira*, owned by Mr. Richard F. Hoyt, of New York. This boat is a wooden hull 81 feet in length, powered with two 12-cylinder high-speed motors driving twin screws. The *Nashira* is an unusual type of boat, for she combines the accommodations of a houseboat with the high speed of 28 knots, which means that the heavy duty type of motor is out of the question. The photograph of *Nashira* shows that she gets up and goes — somewhat after the manner of a fast runabout — and this, of course, takes power.

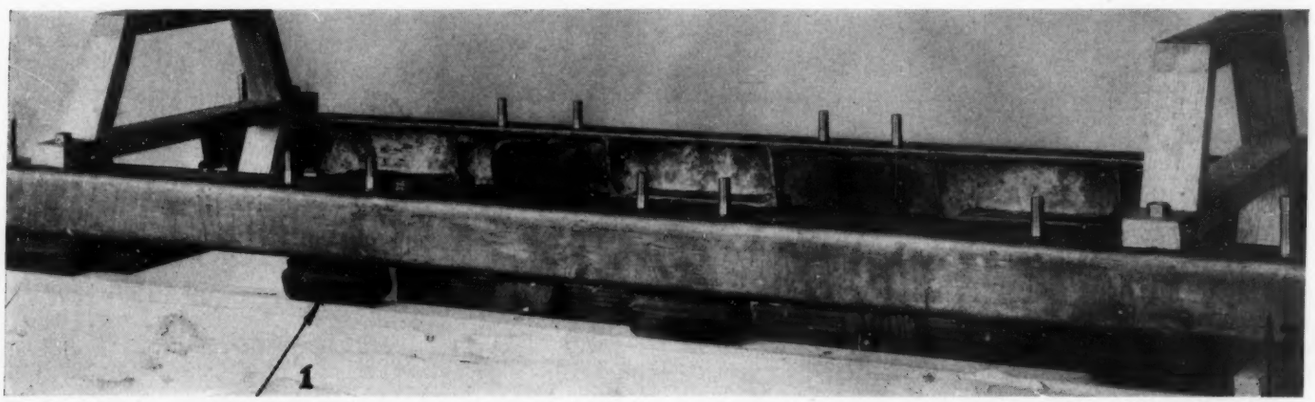
While modern practice in engine design has practically done away with the shaking which we used to mean when we spoke of vibration, there remains still the high-pitched tremble which is present in any fast moving motor. This vibration is scarcely noticeable in a small open boat, but it becomes increasingly evident as the size of the boat increases and particularly when there are walls and partitions to act as sounding boards. In a boat of the size of *Nashira*, with her ample accommodations, it tends to become about as agreeable as the continued hum of a mosquito or the buzz of a dentist's drill.

Mr. Alfred F. Masury, M.E., has devised an interesting system for overcoming this nuisance. He calls it "shudder proofing" a yacht, and it is this system which has been installed with such good results in the *Nashira*. In brief, it consists in supporting the motor and shaft upon rubber pillow blocks and suspending the shaft struts and propeller struts from blocks of the same material situated within the hull. The idea is simple and not entirely new; it has been used, in principle, in automobile trucks but the application of this scheme to a motor boat is new — at any rate, in the manner here employed — and involves some mechanical details which are both interesting and novel.

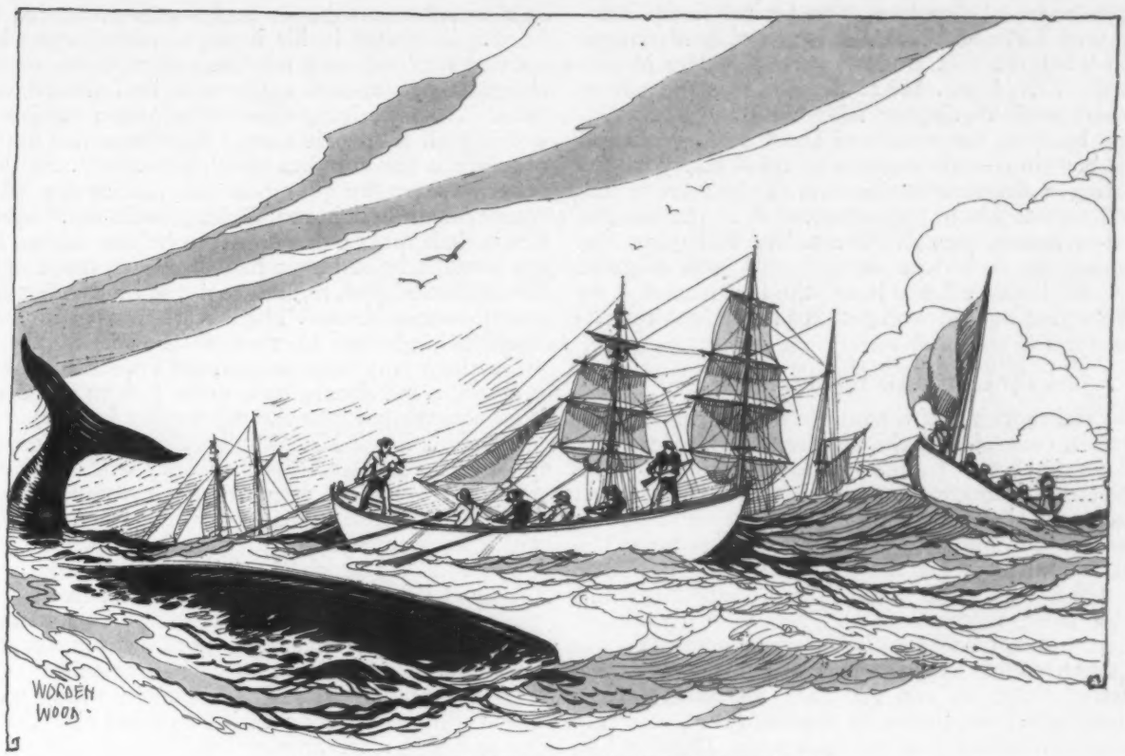
Obviously, it would not do merely to place pillow blocks under the motor feet, because it would still be necessary to use bolts to hold the motor in place and the vibration would be transmitted through these to the bed. The same thing applies to the shaft supports, though perhaps in less degree. The problem was therefore so to arrange the pillow blocks that they would not merely support the machinery but also hold it rigidly in place, yet so that there would be literally no contact between any part of the machinery and the hull of the boat. This called for some very clever designs.

Considering first the motor itself, there is a bronze stringer on each side which passes under and is bolted to all the engine feet (Fig. 2). This stringer has lugs with enlarged ends which rest *within* rubber blocks, which in turn are enclosed within bronze housings bolted to a

(*Continued on page 110*)



Engine base showing (1) compressed rubber blocks, which hold the frame to the engine beds, and (2) bronze frame on which engine is bolted.



"The second mate's boat ran down alongside the whale."

On the Far Reaches of the Pacific

A Cruise of the "Charles W. Morgan," of New Bedford, Early in the Century, With an Interwoven Yarn or Two

By Captain James A. M. Earle

As Told to George M. Sheahan, M.D.

Part II

THERE are many beauty spots in the Pacific and many an island paradise, but few are so satisfying to the eye and heart as Pleasant Island, a low lying coral isle with the usual encircling reef. As one approaches, the blue swells deepen and darken and become purer in color — a deep indigo or true ultramarine. Shading through the greens, they roll landward to the dazzling white sand of the coral beach, where they die in crashing, leaping foam. A few paces up the white beach the vegetation begins and again the eye rests on a variety of colors shading from yellow to the dark green of the palms. There is a story that the island was once called Sun Island because the sun always shone on it — a story it is not hard to believe. There were about 1,000 inhabitants in those days, mostly happy Polynesians of a type much like the Sandwich Islanders, traditionally friendly to the whalers, with whom the island has always been a favorite port of call for vegetables, fruits and supplies.

As there is no anchorage our ship, the *Morgan*, was obliged to lay off and on, running out from a half mile to three miles off shore, mainyard braced forward and foreyard aback with helm amidship, the ship slowly forging ahead; then wear ship and return the same way, at the rate of about two miles an hour, almost exactly to the same spot.

My last visit — also in the *Morgan*, in 1895 — had been a most happy one. We had traded calico, tobacco, flour and sugar for pigs, chickens and bananas to the complete satisfaction of all and we had looked forward to another pleasant visit. A surprise was in store for us, however. Due to treaty making after the Spanish war, control had passed from Spain to Germany, a fact which was impressed upon us with a good deal of stiffness by the new governor. He informed us also that trading with the natives was "totally forbidden" and that we must go to Jaluit in the Marshalls, some 500 miles to the north, for permission. This was, of course, practically out of the question; moreover, we had no means of knowing what reception we should get in the Marshalls. So there was nothing to do but to use diplomacy — well lubricated.

The "gamming tools" were produced. We began with wine and bottled beer and topped off with whiskey and we got that governor into a proper frame of mind before the afternoon was over — a condition in which no potentate need be feared. He left the ship with a most cordial invitation to call and dine with him on the following day. Meanwhile my mate, Mr. Morgan, was busy and succeeded in embarking 52 pigs, over 150 chickens, plenty of eggs, bananas, cocoanuts and pawpaws, and yams — a pretty good trading business, all things considered. The next day we rowed ashore, intending to take advantage of the governor's pressing invitation, but sobering up had left him with a pretty sore head and he roared from the beach that "on further reading of his

instructions he found that he was prohibited from allowing us to land." We left Pleasant Island that afternoon with a fair wind, the N.E. trades, course N.W. for McAskill, Lat. 6° 12′ N. Long. 160.53 E., a lone island whose nearest neighbor is Wellington Island, 100 miles away.

Looking back on the events of those days — natural enough at the time — there come to mind many stories of the daring of the natives, the lives of the more or less romantic outcasts whom we encountered in the islands, and the ever-present peril of the sea. One such yarn, the final clearing up of a deep sea mystery, was of great interest to me because I had heard the first part of it on my previous visit in 1895, and perhaps it will bear repeating here.

Story of the Pleasant Island Longboat

Late in the morning of a summer day in 1894, when Spain was in control and the old free-and-easy trading was still carried on, a trading schooner arrived off the island. She was quickly boarded by the natives and a brisk exchange followed. While thus busily occupied the light breeze which had carried the vessel close up to the coast fell away. Meanwhile the strong westerly equatorial current, which runs close to the island, caught her and carried her along to the W.S.W. There were 12 natives aboard, men and women. Although their attention was several times called to the situation, they paid little heed saying, "Oh, we can get back all right." They stayed until their requirements were satisfied and the "stuff was out," which took until sundown. The ship had drifted out about 15 miles from the shore — still becalmed. The island was still visible from the ship, though far from clearly (the ship herself was no longer visible from the shore), and for the first time the natives were a little frightened. They piled into their boat, a longboat of Australian build, and struck out boldly into the gathering dusk, which swallowed them up. That was the last seen of them, for they never reached Pleasant Island. It was as if they had been blotted out from the surface of the earth. No word of them was received until 1896 when a missionary schooner arrived, bringing back a native woman, the only survivor of the merry trading crew.

Unable to make the shore on that eventful night when they shoved off from the schooner, and with scarcely any supplies, they drifted to the westward over 800 miles, finally reaching the coast of New Ireland. Their sufferings can be better imagined than described. Here a worse fate awaited them. All except a woman, who was lucky enough to catch the chief's fancy, were slaughtered and served up in a cannibal feast. She apparently endured her captivity with fortitude. Finally the opportunity to escape presented itself and she was brought back to her island almost two years to a day from the date she was lost. The adventure she accepted uncomplainingly as a part of life.

From Pleasant Island to McAskill is a distance of 600 miles — three days with a fair wind. It was on the route of our customary yearly journey to the westward and we had a double object in going there. My wife and son wanted to go ashore — an opportunity which was denied them at Pleasant Island — and my mate wished to secure some of the native hats to take home — hats much like the Panama hat. We made a fine landfall but were surprised to be received as we had been at Pleasant Island. The German agent, a runaway American sailor from a whaler, met us on the beach as we landed in a whaleboat, with, "Orders are to allow no one ashore from American whalers." But this time we showed fight, quoting international law which allowed us to get fresh supplies, and calling to his attention the fact that the island had not been closed to navigation and that we intended to land. At this he pulled in his horns to some extent but still insisted that we were not allowed to trade, so we were obliged to go aboard again, and he followed us in his canoe. We were lying then with foreyard aback, slowly working off shore. He stayed for dinner and supper and obtained a few supplies which he desired. As the afternoon wore on we got underway and swung off on our course for the next island, Wellington Island. This alarmed him a little and he demanded to be put ashore. But this my mate, who it seems had every intention of landing him at Wellington, refused to do, so his excellency had to paddle ashore himself. The last we saw of him was in the canoe being helped up through the surf by the natives. In justice to my mate and myself I wish to state that he had not come aboard as a guest but to trade with the crew after denying us the privilege of landing.

The location of McAskill has already been given; there are two coral islands well covered with cocoanut trees and other tropical vegetation, surrounded by a reef, about three miles in length by perhaps a half a mile in width, crescent shaped, with the back of the bow to the trade winds. Though there is no anchorage because of the great depth (100 fathoms within 50 feet of the reef), the little bay is ideal for a vessel to lay off and on in. It is of interest perhaps to note that due west, about 140 miles, is an old favorite sperm whale ground.

West by north from McAskill and about 70 miles away lies Wellington Island which we picked up on the following morning after an easy night's sail. About twice as large as McAskill and supporting nearly 500 inhabitants, Wellington had also a fine little boat harbor within the reef which we were glad to use, for it was the first easy landing in a long time. An old friend, Mr. Dennis, was the agent there and gave us a hearty welcome. He was a good fellow and progressive, a man of mingled English and Kanaka blood, carefully trained by the missionary and with fine natural ability. In his young manhood he had ruled wisely as a native chief for many years, and when Germany assumed the sovereignty of the island they recognized his worth and retained him; so that it was as German agent that I met him on this cruise. We traded freely. In return for supplies and goodies for his wife and children we obtained the longed-for hats, woven mats and numerous curios. Dennis was, at that time, experimenting in the raising of tortoises for the shell, and he presented us with a two-year old tortoise which we kept for a long time on the *Morgan*. Besides this we bought several pounds of excellent tortoise shell from him. Working the shell was a form of scrimshaw always popular on whalers — utilizing the combination of head and hand which is so valuable in keeping a contented mind.

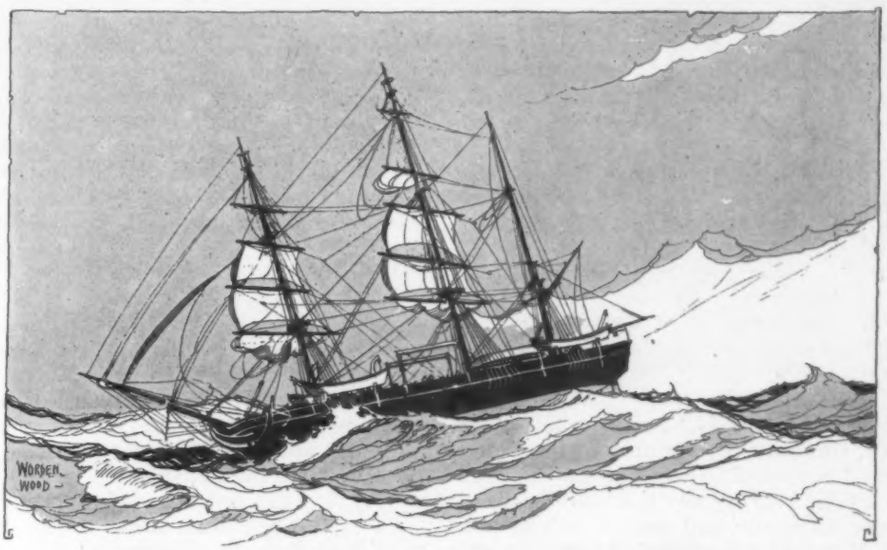
From Wellington we steered north with the N.E. trades to the Black Rock (or Lot's Wife) ground, so called from the 350-foot leaning pinnacle of that name. Here we cruised for a few days without raising a single whale; then we abandoned the hunt temporarily and put into Port Lloyd, in the Bonins. We took with us into Port Lloyd a large logger head turtle which Mr. Morgan had caught near Black Rock. After the meat had been disposed of in the usual way and the shell thoroughly cleaned, Mr. Morgan hung it on the after side of the main mast, saying, as he did so, that he "wanted 100 barrels of oil for every scale on the back of it." There were 16 scales and how well the prophecy was fulfilled will appear.

The bark *Alice Knowles* was in port and my wife and I spent a pleasant day ashore viewing the town with Captain and Mrs. Montgomery. Port Lloyd, like the Bonin Islands in general, is an exceedingly clean town.

Canning crab meat is one of the chief industries. These islands are a Japanese group with a Japanese governor, but there is a large proportion of American blood in some of the inhabitants. In fact, the celebrated Pease family, one of whose members was known in that part of the Pacific as "Pirate Pease" (though I cannot vouch for the accuracy of the term) is directly descended from a Vineyard whaleman.

Leaving Port Lloyd, we sailed on to the coast of the middle island of Japan to meet the summer season, cruising there between 37° and 40° in and offshore until July 1st. Sperm whales were plentiful in those latitudes, and 1,000 to 1,500 barrels a not uncommon catch. It was more profitable, on the whole, than cruising to the north where heavy fog was frequent at this season. Moreover, the right whales seemed of late years to have entirely deserted their old haunts.

We had excellent luck on the inshore ground, better than our two sister whalers the *Alice Knowles* and the *California*, of New Bedford, Captain Joseph. Sometimes, for a fortnight or more, not a sail could be seen; then again one or both of these ships would be in sight for days at a time. This was pleasant and so was Captain Joseph's hail: "Captain Earle, every time I see you you are boiling." But it was not all luck. I followed a theory based on my own observations, and was well repaid. The great ocean streams of that part of the world make more of an oval than a circle. I had noticed that the sperm whales went north in sight of land and circled to the south on the outside, and I simply reversed this track in my vessel. Thus, instead of following, I met them by going south inshore in the cold Polar current, and north offshore in the warm Japan current, following their favorite food, the squid, and I always made a good voyage. On this one we killed between 40 and 50 whales. The largest, a great grey monster, yielded upwards of 130 barrels, worth a little more than $1,600!



"We followed the Great Circle track home." Shortening sail in heavy weather.

On June 25th, while the *Alice Knowles* was just visible on the northern horizon, we raised a dead whale — a "stinker" in whaling parlance. We ran down to within a half mile and I sent Mr. Morgan, my chief officer, in a boat to investigate. This was advisable, for the longer a whale is killed the "poorer" he is, the more decomposed the oil cells become, and the more likely he is to be worthless. This fellow was in good condition, for soon we saw the two yards of turkey red fluttering from the waif. We were in luck. As the mate drew near he saw, as he had fully expected, a trailing line with drags. The iron was buried deep underneath, but it was a small matter to roll the whale and cut it out. Another slash between the iron and the gunwale and the heavy weapon and box warp sank into the sea; no one could say that he had seen any mark on the harpoon or line — an important point. He then turned and began to coil down the line in the stern, over 300 fathoms, and as the two drougs appeared he cut them off, put their bottoms together (to conceal the marks) and tied them with a lanyard. Later he brought them on board with him and finally they disappeared in the try works fire, for at the time we were boiling out a whale we had captured a few days before.

I have described my mate's maneuvers on this occasion in detail for reasons which the reader has probably guessed. Every whale ship marks her harpoons with the initials of the ship on one side of the head or toggle; on the other side is the boat's mark. A harpoon sticking in the side of a dead or dying whale is considered sufficient proof of ownership — American law being international law in respect to the ownership of captured whales.

Nine fathoms back from the end of the whale line in the large tub (there are two tubs of line in a whaleboat, the larger one containing 200 fathoms and the smaller 100 fathoms, the two attached by eye splices), a strip of cloth is tucked in as a marker and this nine fathoms is called the box warp. The whale line is led from the big tub around the loggerhead, then forward in the middle of the boat and through the chocks at the head of the boat, back again into a three-cornered box built in the bow where the box warp is coiled, its end fastened to the harpoon. When the harpooner darts his weapon he quickly puts his hand under the box warp and throws it overboard, giving his boat 54 feet of freedom before the line comes tight to the loggerhead.

Thus, when my mate slashed the line, and the harpoon sank into the sea, all evidence was destroyed. It was no reflection on a vessel to destroy evidence. All did it, and I remember a similar experience of interest which occurred in the Arctic when I was mate of the *Triton*, with Captain Gifford.

The *Triton's* Disputed Catch

We had lowered for a bowhead in the midst of a good deal of excitement. Several ships and many whales were in sight, and about five miles to the leeward of us the schooner *Rosario* had her boats down, chasing whales. We, in our boats, sailed down on our whale, but as we approached to a distance of about a hundred yards he turned flukes and went down. We slacked off our sheets to await his coming up to the surface again and in a few minutes up came a whale 50 yards from the second mate's lee beam, rushing to windward, eyes out. The second mate swung for him. In a minute or two they were alongside and the harpooner darted his gun directly into the back of the bowhead's neck where the bomb exploded, killing him instantly.

I took in my sail and we rowed down to the fast boat. Looking off to leeward I saw the *Rosario's* boats, all with

sails down. One, in particular, was pulling lustily toward us. I concluded that they had struck a whale and were chasing him to windward. Then I happened to think that perhaps they had struck the same fish and lost their line. He was certainly a gallied whale, but bowheads are apt to start for the ice when one of the school is disturbed; and at any rate all whales within a radius of five miles may be said to be gallied. However, I determined when I got to the second mate's boat to find out if there were other harpoons than ours in the whale.

When I reached the second mate I explained the situation to him (for they were closing up on us and were certainly looking for a lost whale) but he was sure there was no other harpoon in the catch. The whale had been struck fairly, right in the back of the neck. I rowed all around him but could see no other line than ours. Still, there was a little doubt, for a bowhead or right whale will float belly up with his mouth open, and the heavy whalebone in the head causes that end to sink below the level of the rest of the body. I concluded that all was well, and leaving the second mate with the whale, we started for the ship.

By this time the *Rosario's* boat had reached us. The first mate, Mr. Peleg Gifford, a brother of our captain, was in charge and he called out, "You have my whale there, haven't you?"

"No," I answered, "our irons are the only ones in him that I can see and if there were any others they would be at the bottom of the ocean now."

"Well," he said, "we struck a whale to the leeward; he took our line end for end, and I thought it possible you had struck the same whale."

"I could see none," I replied, "however, look for yourself." He did so, carefully rowing around but could see only our line. So I returned to the ship and hoisted up. He followed to see his brother and tell him his story.

We took the whale alongside and started to cut him in under my charge. By and by Captain Gifford, who had heard Peleg's story, came to me to talk things over. I told him of my inquiries, and how neither the second mate nor I could see any but our irons in the whale. "Well," he said, "let him (Peleg) see all the harpoons that come up on the blubber." "Very well, sir," I replied and started rolling the blubber. Soon a line, not wholly unexpected, showed, apparently attached to the whale. The second mate, without a word, shoved his long handled cutting spade down and the line disappeared. Next, the second mate's two harpoons appeared, the first in one blanket piece and the second in another, the scarf passing between them. We cut off the head and hove it on deck, 14 feet of bone — a ton or more — and worth five dollars a pound! Small wonder that there was occasion for argument! Soon another harpoon appeared and we were ready for it.

"Shape your scarf further forward, Mr. Second Mate."

"Ay, ay, sir," and as the blubber was rolled in the scarf passed over the location of that harpoon skillfully separating it, and it sunk from sight. Who could say whose it was? The only harpoons that "came in on the blubber" were passed to the captain and they were marked, as all hands very well knew, with "T" for *Triton* on one side, and W.B. for Waist Boat on the other. So the *Triton* had a $10,000 head of bone — and deserved it, too, for if her boats had not been in the right place at the right time that bowhead would have been in the ice in another ten minutes. Still, it was lucky for us that none of the harpoons was stamped with an "R" for then we would have had to give up to the *Rosario*.

To get back to the *Morgan:* We picked up our whale in the usual way, following the regular routine based on the hard lessons of experience. The first step (taken by the boat's crew) was to cut a hole in the flukes about three inches across and six inches or more through with the short handled spade carried for the purpose. Then a portion of the whale line about two fathoms long was cut off, pushed through the fluke hole with the boat hook and hauled through (not with the iron but by means of a notch cut in the handle to fit the line), rove through again and fastened in a square knot. This was the "strap," through which was rove in turn a single lead of the 100-fathom line from the small tub, and that fastened in a bowline about 40 fathoms away from the strap. From this bowline a single length of about 20 fathoms ended in an eye splice. Into this, again, another line was sometimes knotted with another bowline if a longer tow line was needed to reach the ship. We masters used to take pride in our ability to stop our ships within ten feet of the boat that was lying by the whale — no mean feat and one that could not always be accomplished. Squaring the foreyard, hauling down the jibs, clewing up topgallant sails and getting the topsails down on the cap (the fore and main courses having previously been hauled snugly up to the yards) were the steps of the maneuver, which took in all sail except the two lower topsails. In light weather the drift of the ship was slight, but with a strong wind and rough sea might be considerable, the rise and fall of the whale sharp and rapid (hence the double line of the strap), and the less way on the ship the better for all concerned.

Sometimes, in calm weather, the boats have to tow the whale to the ship — and a heart breaking job it is — but this time we sailed down to them, as we always did when we could, coming up to leeward on the starboard tack (the whale must be to windward or the ship would drift over him). "Clew up and clew down, take in all sail," rang out, and the ship came almost to a dead stop.

"Run your line, mister."

"Ay, ay, sir, pull ahead there, captain."

"Get the line hook there, steward" (a 20-foot triple boat hook without a prong).

"Ay, ay, sir."

The mate hooked it over the line, hauled in and passed the line to the men who tailed on in lively fashion. The *Morgan*, like all whalers, carried on the top of her rail a strong and heavy wooden chock called (curiously enough) the cleat; the line led through this across the deck to the bitts whence the other end trailed overboard to the boat; haul in on the windward roll, slack away on the leeward roll was the procedure, and the best and most experienced man at the bitts — for the dead weight of the whale was tremendous. Foot by foot, fathom by fathom, the line came in. Soon the whale is hung to the ship by his tail, neither too tightly nor too loosely, lying snugly alongside as she forges ahead and ready for his operation. With a long sharp spade, the mate cut the strap; the one man remaining in the boat salvaged it. Part of our task was done.

All the while the *Alice Knowles* had been sailing down on us. They had not seen our boat leave the *Morgan* but when we hauled our courses up and swung the ship off to run down and take the whale alongside, the men in the crow's nest, with their glasses, caught sight of our boat with the whale and of course reported it to Captain Montgomery, only to be soundly berated for being asleep on the job and for their carelessness in letting another ship catch a whale right under their noses — not sighting it even till it was alongside. They came nearer to congratulate us, thinking, of course, that we had taken a live whale, for the splashing and breaking waves seen at a distance had misled them, but finding that it was a "stinker" Captain Montgomery decided to come aboard.

After a great boiling down we swung her off to the

(*Continued on page 96*)

Photo by E. Galloway

Tradition is strong in all seafaring countries. In Norway the double-ender type, which came down from the days of the Vikings, still prevails almost exclusively in the fishing fleet.

The Month in Yachting

Norwegian Fishing Boats

THE article in a recent number of YACHTING on the double-ender *West Island* interested me very much, as I was brought up with the Norwegian double-headers of which the *West Island* in many ways reminds me.

These Norwegian double-enders, known as "Hvalörsjote," were used as fishing and pilot boats on the southeastern coast of Norway. It was from this type that Colin Archer developed his famous pilot boats and "Redningssjöite." These boats were remarkable in many respects, especially when the fact that they were built without plans or models of any kind is considered. As a general type they ran from 30 to 45 feet over all length, with the beam about one-third and the draft one-ninth of the length. The overhangs were moderate, with the typical Scandinavian curved stem and stern post. The keel had a pronounced drag so that the draft at the heel was about twice that at the forefoot. The construction throughout was oak, except for the fir deck planking, clinker built, with treenail fastenings everywhere. Even the plank seams were fastened with treenails about 5/8 of an inch in diameter, with a countersunk head on the outside and wedged with a soft wood wedge on the inside.

The midsection was of a pronounced "S" section, thin in the garboards, which were almost vertical amidship, with a rather flat floor, medium bilge and flaring topsides. The water lines were well shaped and fairly full, with no hollows except below the load water.

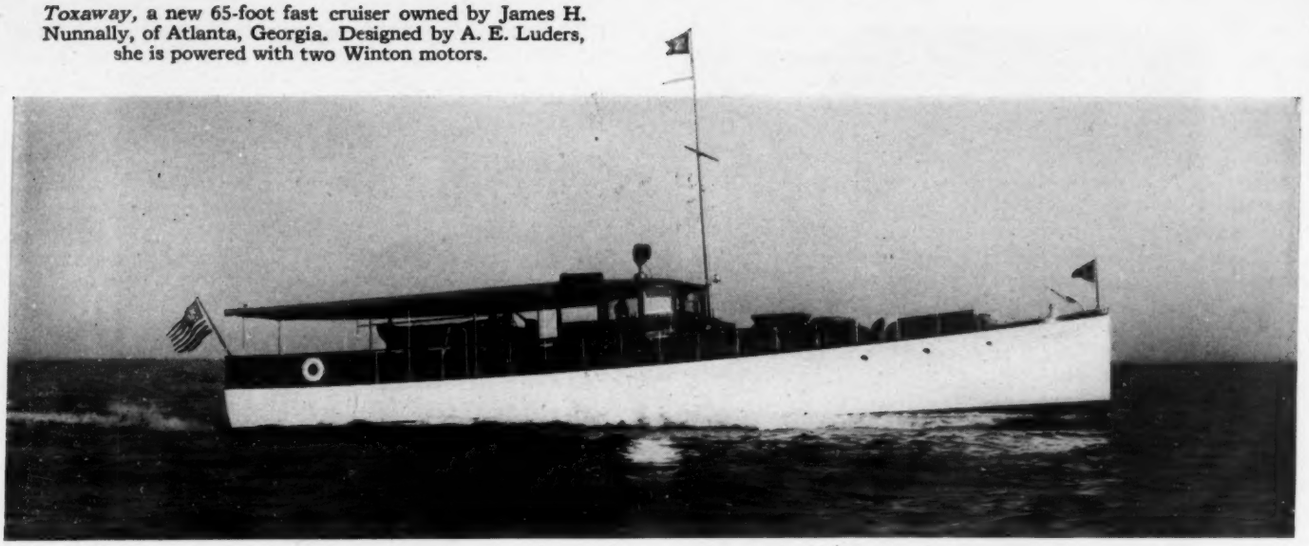
The shape and general characteristics, however, differed considerably with the locality and with the individual builder. Some builders used a few forms taken from some previously built boat; others used only a bevelboard giving the flare of each plank amidships for some other boat. Otherwise the form was by eye and spring of planks. The planks were held in place by shores and the "sawn" timbers fitted after the boat was all planked. Many of these boats were very handsome craft, smart sailers and good seaboats, the only criticism being that the draft and displacement were too light. Greater draft and a fuller midsection, much thicker at the garboards, was Archer's main improvement.

The boats carried inside ballast — generally iron ore. They were cutter rigged, with mast stepped well back from the stem and with housing bowsprit and loose-footed mainsail. The Archer boats are carvel built with about 50 per cent of the ballast in the iron keel, but they are rigged just like the old boats.

What impressed me most was the self-steering of these boats which I first noticed when as a boy I used to go out with the mackerel fishermen. To my surprise the boats sailed themselves for hours with all sails set — lee rail awash and making six to seven knots in the fresh breeze which generally blows along the coast on summer afternoons in Norway. The man on deck would spend a few minutes in trimming sails and adjusting the rudder, the tiller being secured by two iron pins fitted in holes in the heavy coaming. He would then do odd jobs while keeping a general lookout. The boats were always steered by tiller, the helmsman standing in a small steering pit, about three feet square, with one hand on each coaming and the tiller against his hip.

To watch the fishermen handle their boats was a constant pleasure. The way they dodged breaking seas and their maneuvering through narrow crooked channels at night was nothing short of uncanny. I shall remember always my old friend Martin jibing his heavy 45-footer in a hard blow, three reefs in the main, with a bad steep sea on, single-handed. There were plenty of men on board, but as they were below Martin did not consider it necessary to disturb them for a little job like that, and he did it without any apparent effort and without any jar to his gear or boat. I, being only a boy, could do nothing but watch and wonder. Martin was a typical Norwegian fisherman with whom I have had the pleasure of sailing in fair weather and foul and whom I shall always remember as one of the coolest, most resourceful and finest all-round sailors I have ever known.

Toxaway, a new 65-foot fast cruiser owned by James H. Nunnally, of Atlanta, Georgia. Designed by A. E. Luders, she is powered with two Winton motors.



The Motor Boat Show

ON January 20th the Twenty-third Annual Motor Boat Show gets under way at the Grand Central Palace, New York. In a way, this event marks the beginning of the yachting year, as it is the first big gathering of yachtsmen and supplies the stimulus responsible for the success of the season that follows it. During the week plans are made and programs prepared for the summer afloat.

This show has come to play a most important part, not alone in the boat and engine industry, but in the development of yachting as well. For it supplies the need for the interchange of ideas and provides a mart where all that is new in design and construction may be studied and weighed — vital processes if there is to be any progress. One has only to go back in memory a comparatively few years and recall the boats and engines that were then offered to the boating public to see the tremendous strides that have been made in the design of power-driven craft and in the refinement and efficiency of the motors that drive them. This development would have been much slower if it were not for these annual shows.

The Show Management announces that the demand for space for exhibits this year has exceeded that of any other year. The entire first floor of the Palace will be given up to boat exhibits, and here will be found every type of pleasure boat, from the big 60-foot cruisers — the largest that can be transported through the streets of the city — down to the recently developed outboard racers, or the lowly "dink" that is such an important part of the yacht's equipment. Here also will be seen the larger Diesel power plants that are too heavy to be lifted to the second floor, which this year will be devoted exclusively to engine exhibits. On the third floor — up to last year not used at the Show — all available space has been taken up by the accessory and equipment exhibits. In a way this is the most intriguing part of the exhibition, for it is in the proper outfitting and equipping of one's craft that the greatest satisfaction is accorded an owner.

No yachtsman can afford to miss the Show this year, and no one thinking of purchasing a boat or engine should fail to see and study what a great industry is now placing at his disposal.

The success of the Show here has brought about a series of nautical expositions abroad, such as the one held recently in Paris, and described elsewhere in this issue. This exposition, international in character, gave those interested in boats and engines an opportunity to see what the designers and builders of all the European countries, as well as of America, are producing. Such shows are a liberal education in themselves.

Another new cruiser of the year is *Maya-V*, a 73-footer designed and built by the J. M. Densmore Co., Atlantic, Mass. She is handsomely finished and furnished, and makes 16 m.p.h. with two 6-cylinder Sterling motors. She is now on her way south.

Commuting to Long Island in a Free Bottom Craft. Owned and driven by H. W. Ballantine, she is used between Hewlett and Westhampton Beach, a 65-mile run through the shallow waters of Great South Bay, where she need pay no attention to the channel.

Commuting With a Free Bottom Craft

THE problem of commuting from New York to the south shore of Long Island has been satisfactorily solved by Mr. H. W. Ballantine, of Hewlett and Westhampton Beach, by the use of one of the Whistler Sportabouts, designed by Free Bottom Craft, Inc., and powered with a Curtiss eight-cylinder engine which gives it a speed of slightly better than 30 miles an hour. A study of the inland waters of the south shore suggests the reason for using a fast and distinctly shoal draft craft.

From Hewlett a winding channel leads in a generally southerly direction to Long Beach, where it follows eastward to Jones Inlet. Buoys are scattered and hard to locate, although a reasonable depth of water is found if they are carefully followed. From the inlet the course lies northeastward to the northern shore of Great South Bay. By running across the flats, however, it is possible to lay an easterly course that cuts miles off the regular route and offers a wide expanse of smooth protected water regardless of the seas that may be running in the open bay. From Fire Island the course is continued due east along the flats of Great South and Moriches Bays — running in the lee of the dunes in depths of 6 to 18 inches of water.

With the "Free Bottom" the run amounts to approximately 65 miles — an easy cruise in two and one half to three hours. Following the channels would lengthen it by many miles and would call for a weather eye and many an anxious moment in carrying the water a deeper draft boat requires.

Yolanda, a Canadian schooner owned by Norman Gooderham, of the Royal Canadian Yacht Club. Designed by T. B. F. Benson, she is a most successful auxiliary, being fast under sail, while a 50 h.p. geared Kermath and feathering propeller give a speed of seven miles under power.

Spanish Ocean Race Conditions

THE conditions for the ocean race from New York to Santander, Spain, open to yachts owned by Spanish and American yachtsmen, have been announced by the race committee.

Two classes will compete: Yachts over 55 feet water line length and yachts over 35 feet and under 55 feet water line length. All yachts must be propelled by sail alone and those having auxiliary power must either remove their propellers or have their engines sealed. Breakage of this seal will mean retirement from the race. In yachts whose propellers have been removed it will be permissible to use the engine for hoisting sails, running electric lights, etc., but no use of any power which could add in any way to the speed of the yachts is permitted.

For yachts of 55 feet water line length and over there is no time allowance and no restriction as to the number in the crew or as to professionals. Neither are there any restrictions as to the number, character or size of sails carried. For yachts over 35 feet and under 55 feet water line length there will be a time allowance based upon New York Yacht Club time allowance tables.

Measurement for time allowance will be made in accordance with the following Bermuda Race formula:

$$.2\frac{L\times\sqrt{SA}}{\sqrt{B\times D}}=R$$

L = Actual over all length in feet and tenths, at the center line of yacht from the extreme after point of transom cap to intersection of deck with the fair line of fore side of stem, or stem extended.

SA = Sail area measured by North American Yacht Racing Union rule (Universal), except that if club topsail is carried its actual area shall be measured.

B = Beam, extreme, to outside of planking.

D shall be the depth, at the point of greatest beam, from top of deck beams at side to top of keel, plus one-half the height of rail, at same point of measurement, from top of deck to top of rail cap, except that credit for such additional half-height shall not exceed six inches.

Crew: The captain, navigator and officers must all be bona fide amateurs but yachts in this class will be permitted to carry professional cooks and able seamen but none of these professionals may be navigators in disguise.

Right of way: The rules of the New York Yacht Club regarding right of way between the competing yachts will govern from the first signal preliminary to the start until after the finish line has been crossed.

Course: The course is from a starting line off Sandy Hook, New York, to a finish line off Santander, Spain. The exact location of the starting and finishing lines and all regulations regarding starting signals and taking time at the finish will be announced later.

Yachts over 35 feet and under 55 feet water line length will start on Saturday, June 30th, 1928. Those over 55 feet water line length will start on Saturday, July 7th. The winner in the first group will be presented with a cup by Her Majesty Queen Victoria, of Spain, and His Majesty King Alfonso XIII will pay like tribute to the winner in the second group.

The small yachts are being started a week ahead of the large yachts in order to make probable the arrival of all the entrants within a few days of each other. Following entertainments at Santander there will be two port to port runs for prizes given by Spanish yacht clubs in which Spanish yachts will also participate. The first run is from Santander to Bilbao and the second, from Bilbao to San Sebastian. The visiting yachtsmen will be entertained both at Bilbao and San Sebastian. The coast of this region and the foot hills of the Pyrenees Mountains lying back of it are exceedingly beautiful. Plenty of sunshine, moderate tides and an absence of fog all add to the pleasures of cruising in these waters during July and August.

Entries or inquiries for information should be addressed to Henry Howard, Secretary, Spanish Ocean Race Committee, 37 West 44th Street, New York, N. Y.

Eastern Stars Challenge for International Trophy

A NEW fleet, that on Great South Bay, was the first to definitely state that they would ship a challenger to California for the International Star Class Championship, to be sailed off Newport harbor next August. Peconic Bays, Western L. I. Sound, and Gravesend have since voted to do the same. Four eastern fleets, New Orleans, Lake Michigan and Lake Ontario, will all send challengers to California, and the rest of the fleets in eastern North America have not yet held meetings, but it is assumed that there will be many more. With seven fleets of their own on the Pacific, it already looks as if the entries in 1928 would exceed those at Providence last season.

The Newport Harbor Y. C. will be Association headquarters.

A Closing Word on the Auxiliary Discussion

EDITOR YACHTING:

In re Alexander Forbes' article deprecating auxiliary power, please be advised that he carts around a power tender which he uses for towing, in effect the same purpose for which he decries the auxiliary. He is as consistent as the man who is too rugged for a closed car and who drives an open car through the winter with the side curtains set.

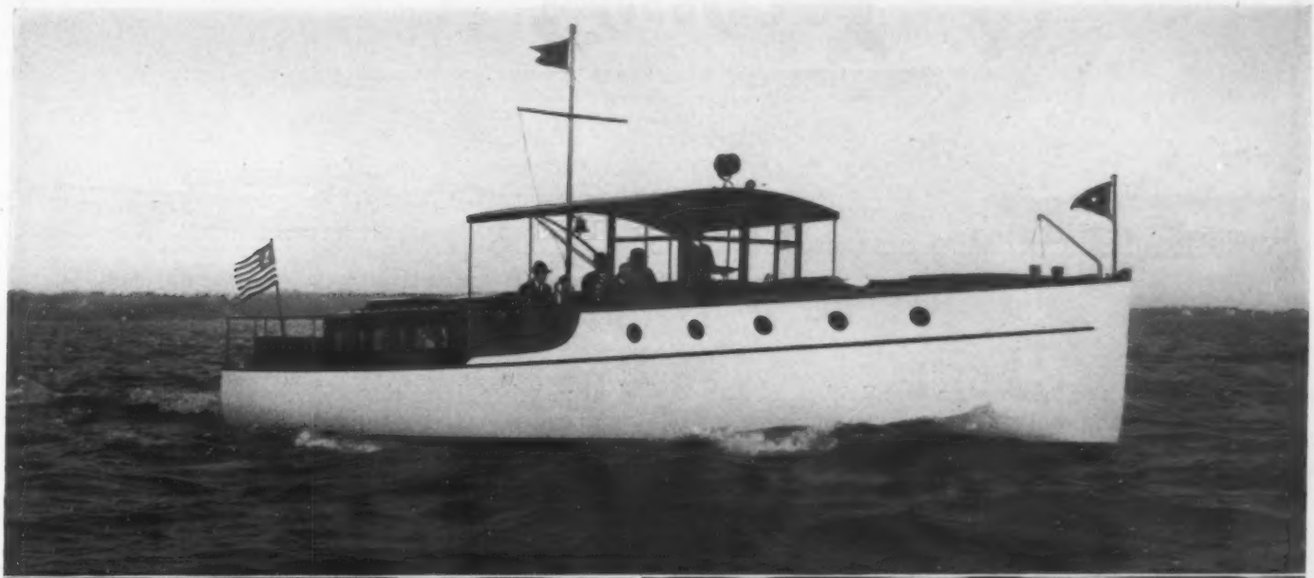
Why are there some left who are apparently ashamed of an engine in a sailing vessel? If the qualities of skill, patience and resourcefulness bred by sail are so perishable that a neat little engine in its proper place will destroy them, then perhaps absence of auxiliary power is a confession of weakness.

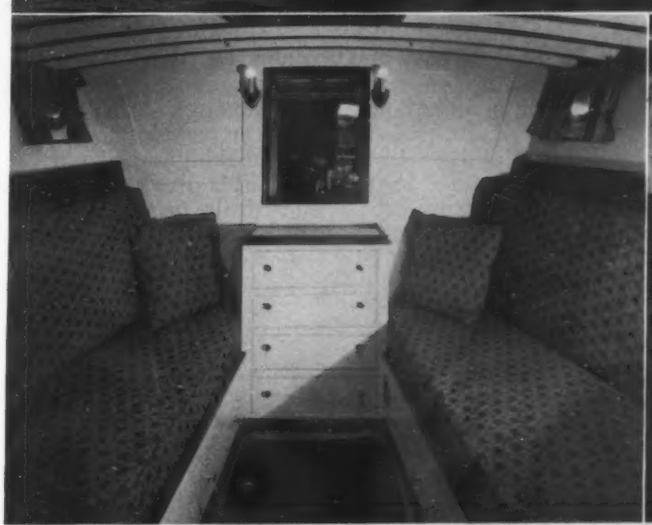
Running a marine engine successfully is an art in which perhaps some of the good windjammers have not yet developed proficiency. It is human weakness for any man to like a thing he does well. Why not call a spade a spade — or an inferiority complex!

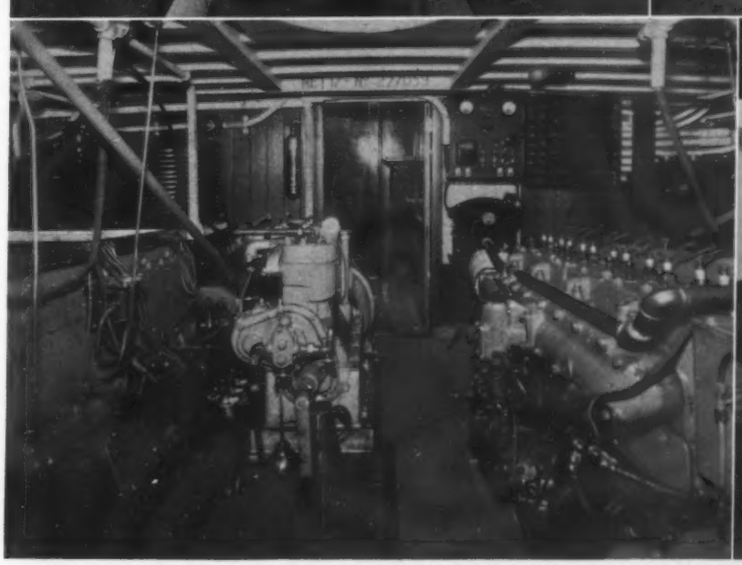
BOSTON BILLY.

Christmas in the foc's'le.
Drawing by Charles Rosner.

A New 48-Foot Power Cruiser







A new power cruiser that will attract attention wherever she goes by reason of her well-turned lines and pleasing appearance is the *Charlotta II*, designed by Frederick K. Lord for Mr. Frederic E. Kip. She is 48 feet long and with two six-cylinder Kermath engines she does 13 miles per hour, her normal speed. There are unusual accommodations, consisting of a double stateroom forward, a large cabin and galley aft, a spacious bridge deck, and a sunken cockpit forward. There is also a forecastle for two men. W. F. Ruddock was the builder.

Editorial

Protecting the American Boat Builder

WITH the proposal of the present Congress to place a user's tax on foreign built yachts, of sufficient size to really check the ordering of pleasure boats abroad, the whole question of building at home has been brought to a head.

In common with everyone in this country who has the future of the boat building industry, and hence of the sport, at heart, we have viewed with alarm the growing tendency of many American yachtsmen to go abroad to get their yachts built because of the lower costs which prevail in Europe today, resulting in a substantial saving in the initial purchase price. If this policy is allowed to continue it will work a great hardship on the yacht builders of the United States and will, we believe, have a disastrous effect upon the sport in the long run. Successful yacht building requires not only well equipped plants, but trained and experienced boat builders. These can be had only if there is sufficient work to justify the investment and to keep the personnel regularly employed. Without such facilities for doing the high grade work that yacht building demands, the sport will not — cannot — grow to the proportions that it should.

In view of what we have seen since the war, we are convinced that legislation, and legislation only, will remedy the existing state of affairs. Congress has left the doors wide open to purchase abroad, and it was only to be expected that where price was a consideration, orders would be placed where they could be most advantageously filled. This is a primary law of economics.

In a country definitely committed to the protection of American industries by a differential tariff (whether one believes in it or not), we are in full accord with the efforts of our boat builders to get the protection that is accorded to every other industry that has to meet foreign competition. The relief that the boat builder seeks should, we believe, be in the form of a tariff duty. Except as an emergency measure it should not be in the form of a tax ostensibly levied for revenue purposes.

The situation, however, was such that immediate relief was necessary. It is reliably stated that at the present time there is under construction abroad for American account over $4,000,000 of yacht work. There was no way of getting anything done through a tariff, as the tariff bill was not up for adjustment. So the boat building industry asked for a tax of such proportions as would check the existing state of affairs. The Lower House, therefore, has placed in the revenue bill coming up for consideration a user's tax on foreign built yachts of five times the present tax, or $10 per over all foot for yachts up to 50 feet in length, $20 per foot for yachts between 50 and 100 feet in length, and $40 per foot for yachts over 100 feet long, to be paid annually. These amounts are probably sufficient to bring about the desired end. It might have been more equitable to have given the yacht owner the option of paying this tax, or of paying the duty now imposed on yachts shipped into this country as freight, namely 35 per cent. As it is, the tax appears to be a permanent liability against the yacht that may depreciate the value of the vessel.

There seems to be some doubt as to whether this tax will apply to foreign built yachts already in this country, or contracted for prior to December 1st. We are informed that it does not — and this, if true, is as it should be. Those yachts already here were brought in legally under the existing laws, and should not be penalized. There is no point — and no justice — in making the tax retroactive. What the boat builders want is protection for the future. They are not concerned with the past, except as it shows them what is necessary for future protection. We understand that the National Association of Engine and Boat Manufacturers did not ask nor desire that the tax be made retroactive.

There's the case in a nutshell.

What of the Future?

What the future of the building of racing yachts in the United States will be as a result of the proposed tax, time alone will show. There are those who hold that it will result in fewer yachts being built and that those built will be smaller than if they were built where costs are not as high. To this view we cannot subscribe. Undoubtedly the size of racing yachts has come down as costs have mounted. This was but natural. But we believe that the sport is benefited by *many* small yachts rather than by a *few* large ones, and we see no sign of any slowing up of interest in the smaller classes. The country is prosperous and certainly there are just as many yachtsmen today who can afford to gratify their desire to own a boat as there ever were, and they are as willing as ever to build up to a reasonable limit of their resources. One need have no fear for the future.

Join the North American Yacht Racing Union

The recent meeting of the North American Yacht Racing Union held in New York brought together delegates and yachtsmen from all parts of the United States and Canada. It was in this respect truly representative of racing yachtsmen. In addition to the membership of twelve leading yacht racing associations, the secretary's report showed some five hundred individual members. The Union, being the only national racing body in America, should have the active support of *every racing man*. The benefit of such an organization to the sport is readily apparent; the financial obligation is small. Every racing yachtsman should make it his duty to become a member. Why not join now?

In the World of Yachting

BUTLER WHITING

AMONG the prominent skippers that the Larchmont Yacht Club has turned out, none is held in higher esteem among racing yachtsmen than Butler Whiting. "Butts," as he is commonly called, has been racing boats on Long Island Sound for some 30 years, which means that he started in early and has kept at it pretty steadily. There are few types of boats he has not sailed, or with which he is not familiar, and it is said that he knows every wave on the Sound.

As far back as 1896 he was "broken in" by Bryan Alley in that well known skipper's famous old "Cruiser." The two years following he was one of the crew of the "Minnetonka," a long-ended, fin-keel western scow that was very successful, and later he sailed on the famous "Kazaza." When the raceabouts came out around 1903 he sailed in that fine, fighting class on the "Rouge," "Snapper" and "Pretty Quick." Unfortunately, the demands of business took considerable of his time during the years following, but in 1909 he was one of the crew of the successful "Joyette" in the Sonder Class races with the Germans. Another international event in which he sailed was the match with Great Britain of 1922, in the six-metre class, in which he was the skipper of "L'Esprit."

When Addison Hanan was sailing in the "P" and "R" Classes, "Butts" was invariably with him on the "Josephine," "Nahma" and the little "Ariel," all of which "cleaned up" in their respective classes. So it will be seen that his experience has been most varied.

In 1925 he served as chairman of the regatta committee of the Larchmont Yacht Club, and the following year he sailed in the Bermuda Race with "Bob" Bavier and the hard-boiled crew of the "Dragoon." Besides Larchmont, he is a member of the New York Yacht Club, the Cruising Club of America, and the Explorer's Club.

Sea Sled 13-foot outboards (at left) racing against larger boats of the same type. A good study in comparison of sizes.

The New Sea Sled Outboard

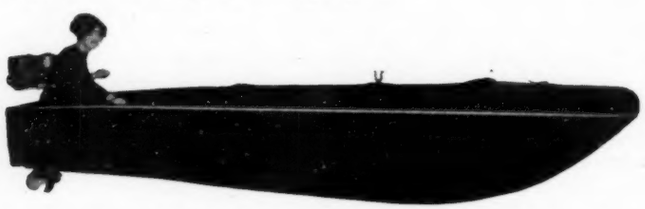
Experiments Have Developed the 13-foot Dinghy into a Fast Little Motor Boat

EARLY this past summer the Sea Sled Corporation began a series of experiments with the idea of developing a small model especially adapted to general use with an outboard motor. As a result, the 13-foot dinghy, from a small hull designed primarily for easy rowing and towing, has been evolved into a competent little motor boat which can be rowed about as easily as a dory.

The changes involved were sometimes figured in fractions of an

In spite of the fact that this husky boat weighs 215 pounds, she comes to the surface when running and makes better than 21 miles per hour with an outboard.

inch — so small as to seem relatively unimportant. To illustrate, the original dinghy did not plane well. A shift of about seven-sixteenths of an inch in the lines of her chine over the last two frames brought her transom right up to the surface, but she planed with her bow too high. A one-half inch shift in the curve of her forward keel brought the bow down so that she planed high, light and flat, even with considerable load. The original dinghy had flat, almost vertical, sides, with a decided flare, like that of a sharpie, at the transom. This flare aft was transposed to a definite tumble home and the broadside was flared amidships. The added curves thus given to her broadsides not only made her planking lie better, but, improbable as it seems, made the little hull much dryer aft on a sharp turn at high speed.



In the new model the sheer line was first straightened, and then given a reverse sheer aft.

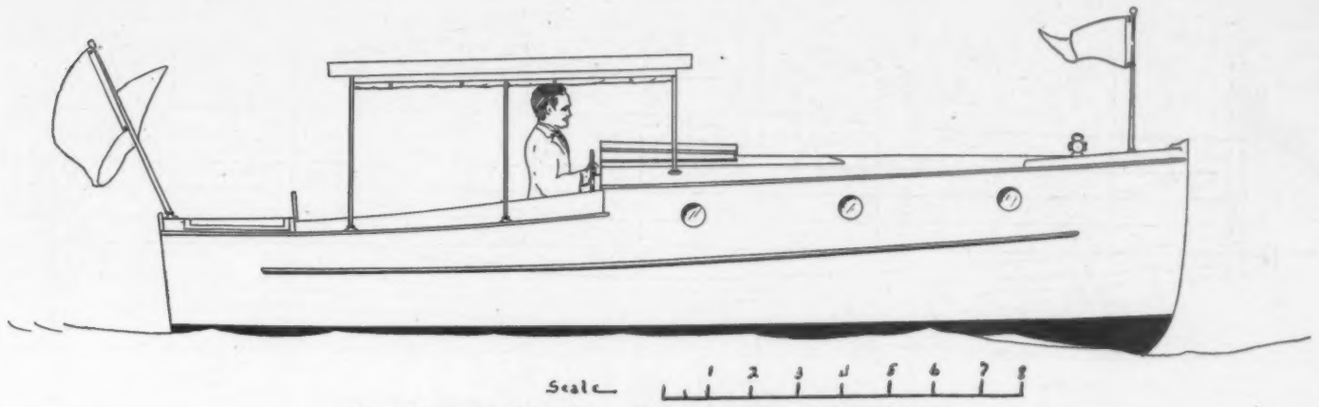
The new model is solidly built of mahogany and white oak, with double planked bottom and bronze chine. In spite of the fact that she weighs 215 pounds, the small changes of design in her bottom lines not only brought her up to the surface when running, but produced a working speed of 21 miles an hour. The original dinghy had all the sheer ordinarily given a small flat-bottomed tender. In the new model this sheer line was first straightened and then, to some extent, reversed, giving her an appearance of power and speed unusual in so small a craft, and adding very definitely to the comfort and dryness of her passengers. She has been subjected to rigorous tests for the past few months and up to date seems to have developed no flaws.

In ordinarily smooth water, the new model is a fast, light, lively traveller and in tide rips or rough open water she has proved quite extraordinary. Even when thrown clear into the air by a

The buoyancy of this little 13-foot dinghy is remarkable.

wave when travelling at 21 miles an hour, she comes down easily on account of the air which the inverted "V" bottom imprisons, and lands squarely it is claimed. Although to all intents and purposes she is an open boat, in rough weather she is unusually dry. On one occasion she was driven through the Race at the east end of Long Island Sound when there was a hard chop running and the waves were cresting. She was run on different courses without regard to the scend of the sea. After 30 minutes of this hard travelling it is said that the operator came out with a dry shirt and no water in the boat.

This series of carefully worked out experiments has apparently resulted in a small outboard motor driven craft which will deliver much more speed than an ordinary work boat, as well as long and hard service.

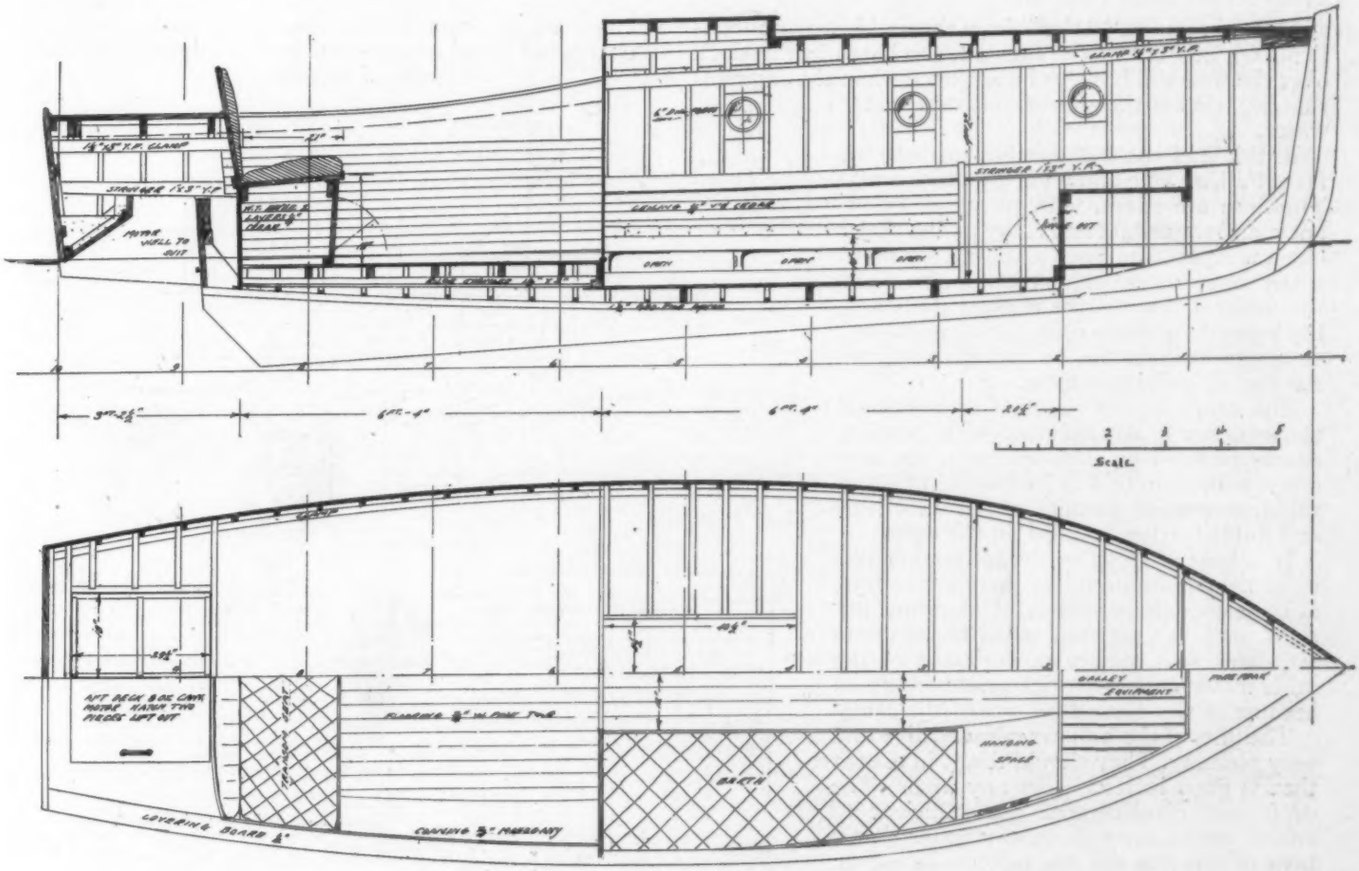


Profile drawing of 22½-foot small cruiser for an outboard motor.

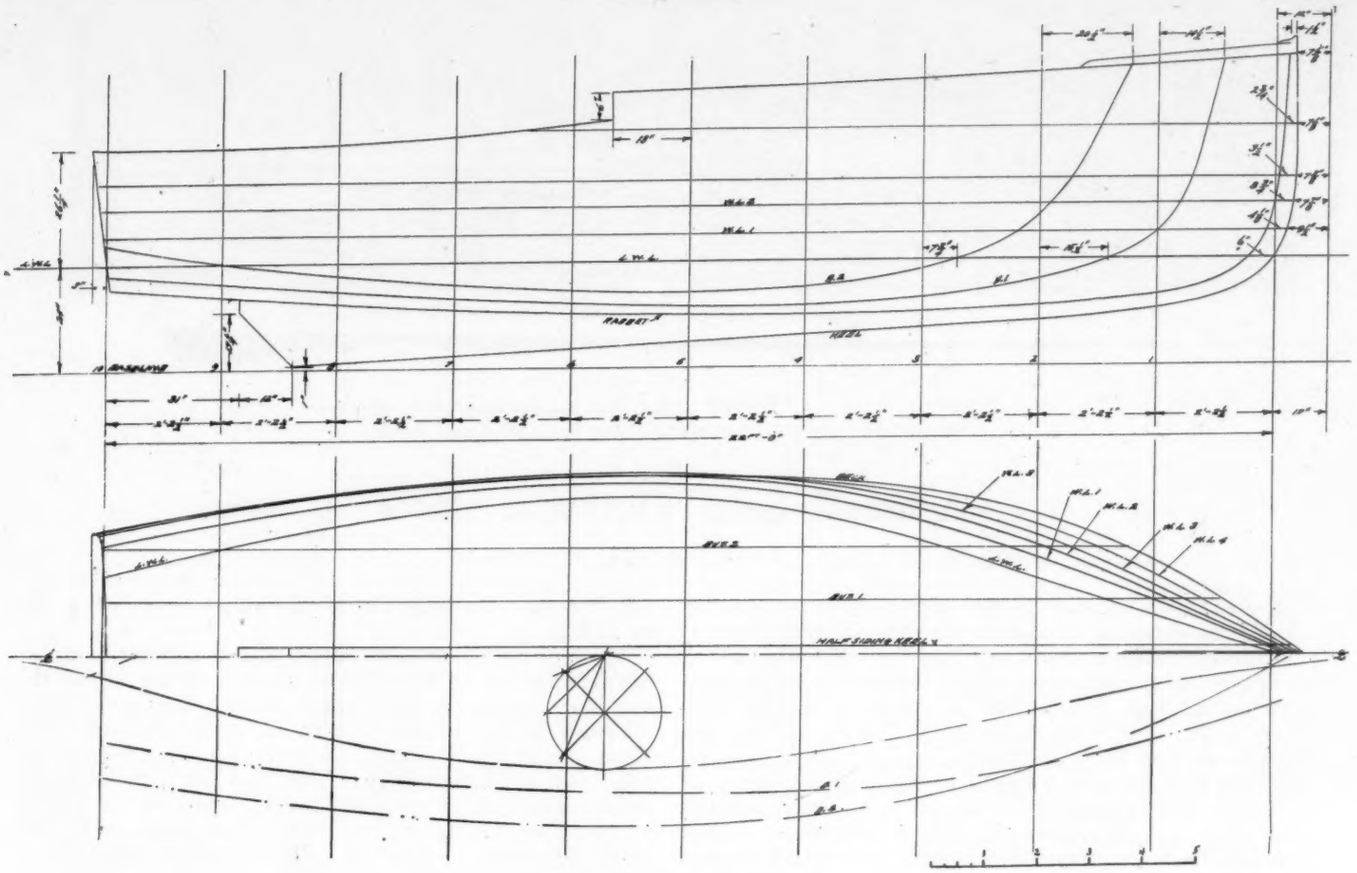
A Husky Small Outboard Motor Cruiser

WITH the increase in the power developed in the two-cylinder outboard motors it has seemed possible to design a small cruising boat to take one of these portable motors that might have some advantages over the inboard installations in a craft of limited size. There have been outboard cruisers before, and on the West Coast they have become quite popular, but in many cases the hull was not designed particularly for this type of power, and frequently left much to be desired in the way of design. Therefore the design which we submit herewith to the readers of YACHTING, the work of Weston Farmer, to whom we suggested the idea, shows what is possible with the large outboard motors of from 8 to 11 or 12 h.p.

Some of the advantages of this type of power plant in a small cruiser are: that it does away with an engine installation in the center of the boat, and thus gives more room for the accommodations; saves the cost of engine beds, shaft log, stern bearings and stuffing boxes; does away with tanks and piping. With the outboard motor hung in a well under the after deck, the appearance of the boat is not hurt, and from the outside it is impossible to distinguish between an outboard and inboard installation. As most power cruisers have a short after deck anyway, no



Construction plans, showing details of well.



Lines plan, giving measurements.

additional room is "stolen" from the usable accommodations. On account of the exhaust, the hatch in this deck over the well will have to be left open when the engine is running, unless the motor exhausts under water.

In this hull the designer has turned out, first of all, an able and a good looking craft. The lines are sweet, with plenty of buoyancy, and she should run easily at the speed one can expect from such an outfit, say up to seven honest miles per hour. She is also about the limit of size for the present outboard, but everything really essential for week-end, or longer cruises, can be incorporated, according to individual taste.

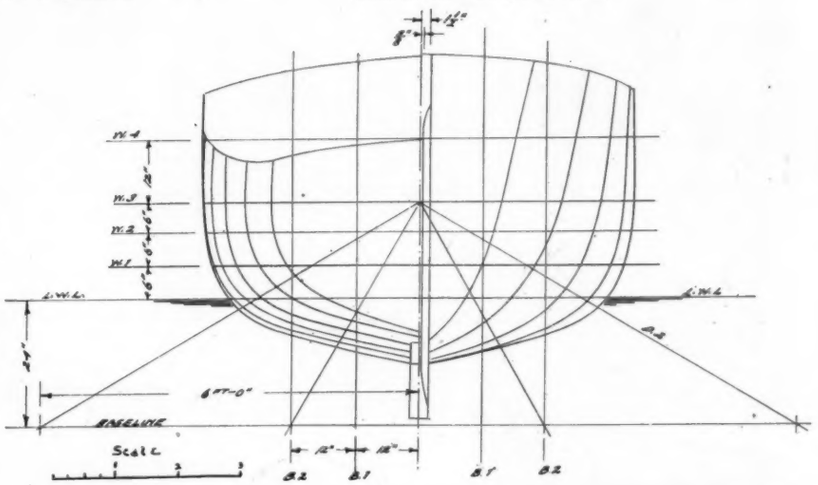
The cabin layout shows a conventional transom berth arrangement with hanging spaces forward of each transom. An adequate galley can be installed in the bow and the arrangement permits of space for rope and duffle further forward, in the eyes.

In a boat of this size the space available is, of course, limited. The hatch, however, is large enough to permit of standing upright, and the cockpit, with its adequate lazy-back seat, makes up for some of the other inconveniences which must be suffered because of the diminutive size of the cabin.

The lines of the hull are conservative and very pleasing. They should result in a boat that is good looking from any angle. The draft and displacement are sufficient to enable her to carry on in any water that a boat of this size has any right to be out in.

In case the well for the outboard motor is not desired, a motor with a long shaft might be used. Such a motor could be mounted on the transom. Another

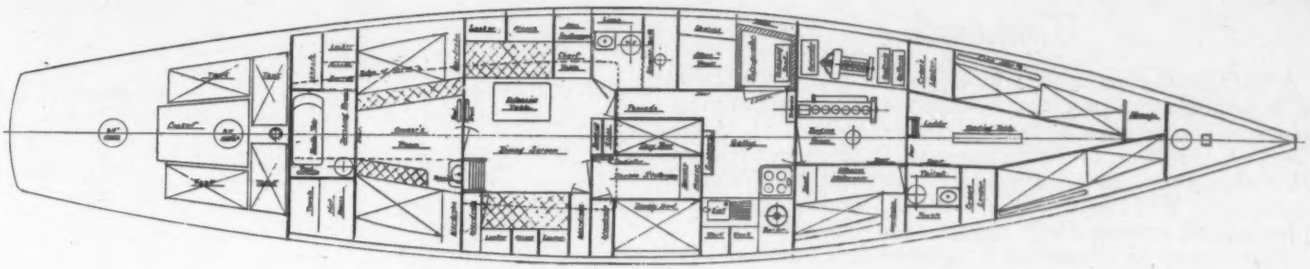
(*Continued on page 106*)



HEIGHTS ABOVE BASE										
KEEL	1'-0	0'-9 3/8	→ ST. LINE TO HEEL							
RABBET	1'-4 0	1'-1 6	10'-1	1'-0 0	0'-11 7/8	1'-0 3	1'-1 1/2	1'-2 6	1'-4 4	1'-6 4
BUT. 1	2'-6 0	1'-7 4	1'-3 8	1'-2 2	1'-2 1	1'-2 6	1'-4 1	1'-5 5	1'-7 6	1'-7 6
BUT. 2		2'-9 6	1'-10 0	1'-6 1	1'-5 2	1'-5 6	1'-7 2	1'-9 2	2'-0 0	2'-2 6
SHEER	5'-8 1	5'-6 4	5'-5 2	5'-4 0	5'-3 0	4'-7 1	4'-4 5	4'-3 1	4'-2 3	4'-2 3

HALF BREADTHS from ℄										
DIAG. 1	1'-7 3	2'-1 4	2'-5 1	2'-4 7	2'-7 4	2'-6 6	2'-5 6	2'-3 3	1'-11 6	1'-7 4
DIAG. 2	1'-4 1	2'-1 4	2'-5 4	3'-0 7	3'-2 4	3'-2 6	3'-1 0	2'-10 3	2'-7 2	2'-3 4
L.W.L.	0'-8 3	1'-5 3	2'-1 6	2'-6 1	2'-8 6	2'-9 2	2'-9 0	2'-5 3	2'-0 0	1'-5 7
W.L. 1	1'-0 1	1'-10 1	2'-6 1	2'-8 1	3'-0 4	3'-2 4	3'-1 1	2'-10 1	2'-6 1	2'-1 1
W.L. 2	1'-1 7	2'-0 6	2'-8 6	3'-0 1	3'-4 1	3'-4 3	3'-3 6	3'-0 4	2'-8 7	2'-3 5
W.L. 3	1'-3 7	2'-2 2	2'-7 4	3'-0 6	3'-3 6	3'-4 7	3'-3 2	3'-0 3	2'-8 7	2'-3 4
W.L. 4	1'-6 3	2'-3 4	2'-8 1	3'-0 3	3'-3 3	3'-4 2	3'-2 6			
DECK	1'-9 5	2'-3 6	2'-9 2	3'-1 2	3'-3 6	3'-4 2	3'-3 1	3'-0 2	2'-9 7	2'-5 4
STATION	1	2	3	4	5	6	7	8	9	10

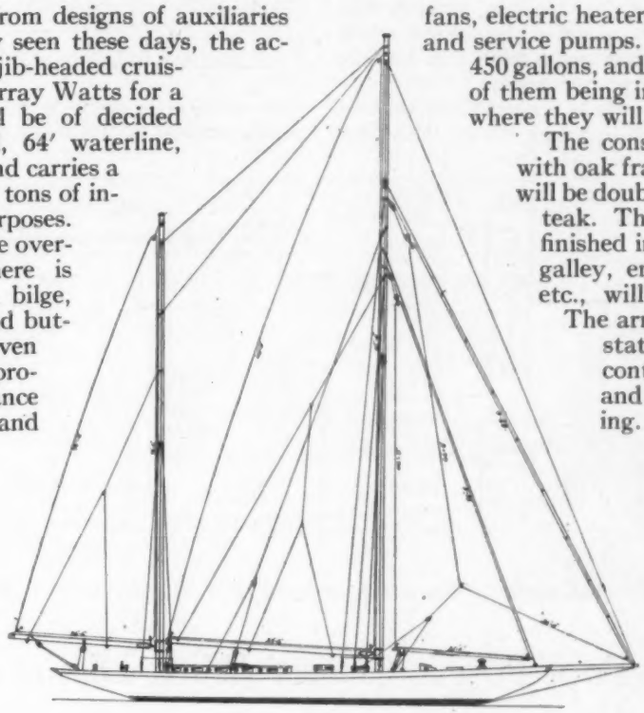
Body plan and table of offsets.



Speed, Comfort and Seaworthiness in this 94-Foot Auxiliary Ketch

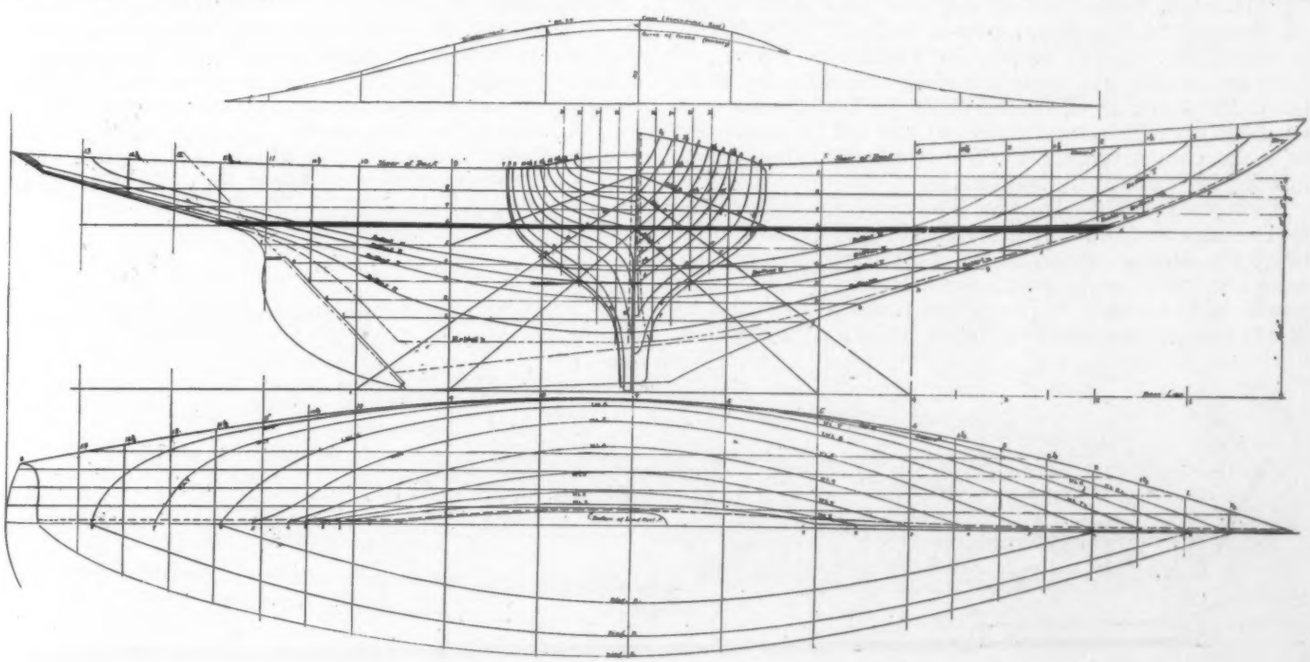
DIFFERING materially from designs of auxiliaries of a similar size usually seen these days, the accompanying plans of a large jib-headed cruising ketch, designed by J. Murray Watts for a Philadelphia yachtsman, will be of decided interest. She is 94′ over all, 64′ waterline, 18′ 10″ beam and 12′ draft, and carries a lead keel of 17 tons, with two tons of inside lead for trimming purposes. The sheer is rather flat and the overhangs moderately long. There is good deadrise and an easy bilge, while waterlines, diagonals and buttock lines indicate an easily driven form of hull. The tall rig is so proportioned that she will balance perfectly under headsails and mizzen, and should be easy to handle at all times with a comparatively small crew.

In the engine room is found a 200 h.p. Hall-Scott motor, with reduction gear, which drives a feathering wheel. A 7½ k.w. Universal electric plant will furnish current for operating the electric lights, fans, electric heaters, ice machine, capstan, bilge and service pumps. The gasoline tanks will hold 450 gallons, and water tanks 900 gallons, most of them being installed under the cabin floor where they will act as ballast.



The construction will be substantial, with oak frames and keel, while planking will be double. Deck and deckhouse are of teak. The owner's quarters will be finished in teak and enamel, while the galley, engine room, crew's quarters, etc., will be finished in butternut.

The arrangement plan shows a large stateroom aft for the owner, containing two double beds, and with bath room connecting. The saloon contains two sofa transoms, two wardrobes, large chart table and locker, with buffet at the forward end and companionway at the after end on the starboard side. Accommodations for guests are found in a double stateroom with double and single bed, with shower bath and toilet room connecting.



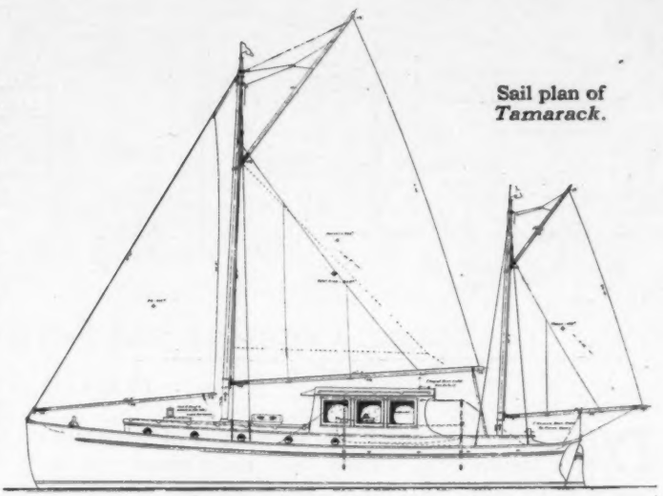
Tamarack

ANOTHER handsome cruiser in which sails are made auxiliary to the motor is shown in the accompanying plans of *Tamarack*, a 50-footer designed by Wm. H. Hand for F. L. Jenckes, of Providence, R. I. She was built by Hodgdon Bros. and delivered late last fall. She is very similar to Mr. Hand's *Water Witch*, whose plans and photograph appeared in YACHTING for November, 1927.

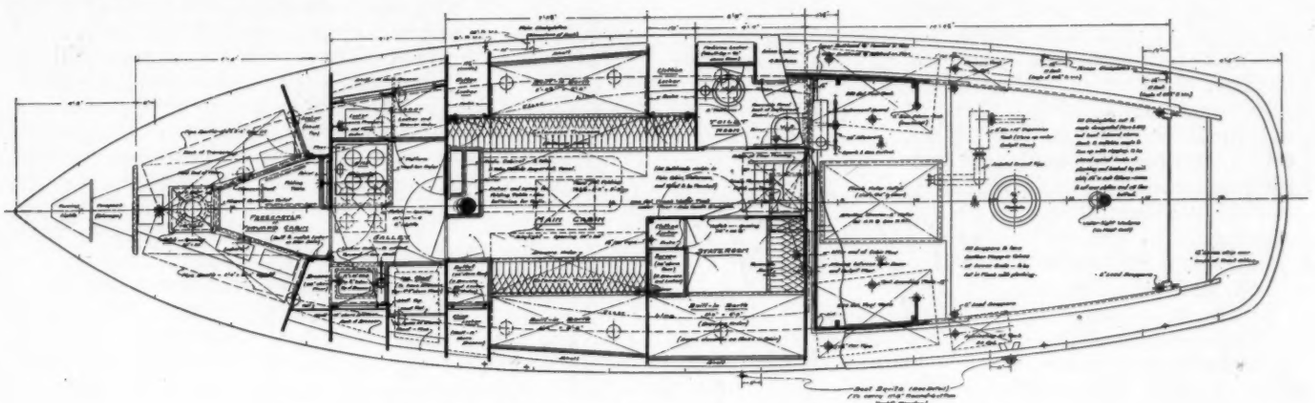
The motor in *Tamarack* is a Sterling Chevron, a 6-cylinder 85 h.p. engine which gives her a steady speed of ten miles or better when in cruising trim. The auxiliary ketch rig contains 830 sq. ft. of sail, under which she makes good speed with a fair breeze of any strength.

At the foot of the companionway steps, to port, is a double stateroom, with toilet room opposite. The large saloon contains two built-in berths, dressers, lockers, etc. A big, well equipped galley is forward of the saloon, while still farther forward is a compartment with two berths, used either as a forecastle or forward cabin.

Several trials in various kinds of going have proved *Tamarack* capable of fine speed in rough water, while her easy motion is striking when compared to the average power cruiser of the same size.



Sail plan of *Tamarack*.



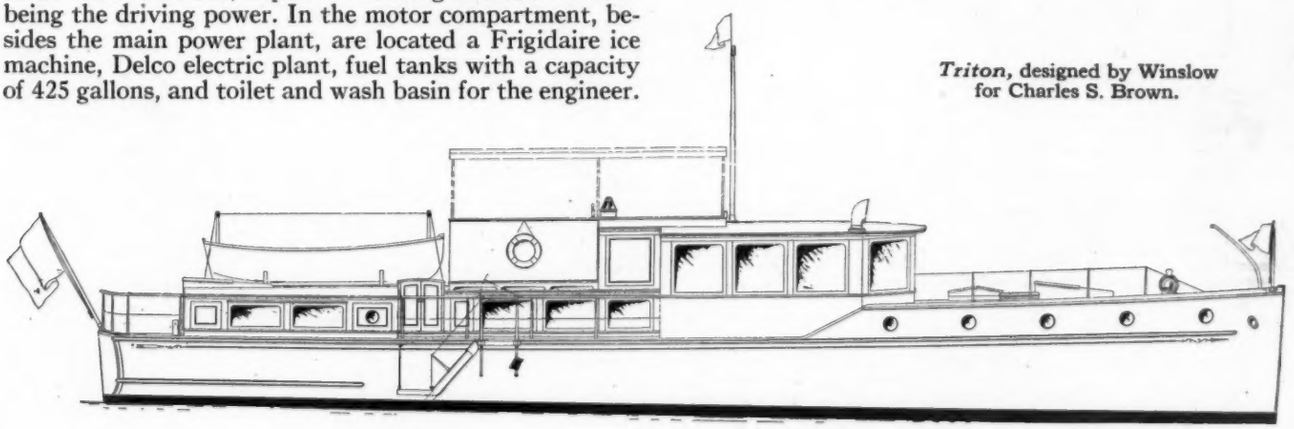
Accommodation plan of *Tamarack*, designed by W. H. Hand for F. L. Jenckes.

Triton, a 62-Foot Power Cruiser With Distinctive Features

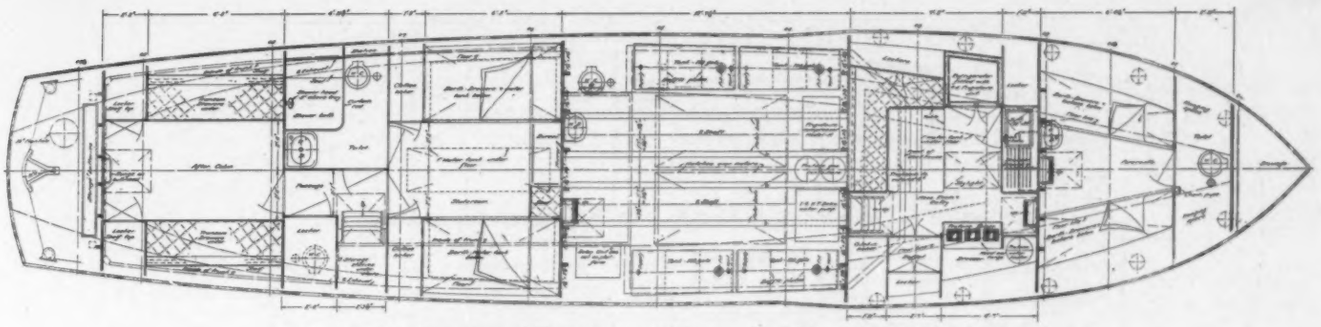
THE plans below and on the next page show an attractive 62-foot power cruiser designed by Ralph E. Winslow, of Atlantic, Mass., for Charles S. Brown, of Syracuse, which has been completed recently by Britt Bros. The beam is 12'9" and draft 3'6", while the construction is very strong throughout, the hull being divided into six compartments by five watertight bulkheads, making her practically unsinkable.

Twin screws are used to produce a cruising speed of close to 16 miles an hour, a pair of Sterling Chevron motors being the driving power. In the motor compartment, besides the main power plant, are located a Frigidaire ice machine, Delco electric plant, fuel tanks with a capacity of 425 gallons, and toilet and wash basin for the engineer.

Below decks, aft, are found two large double staterooms, sleeping six people, with connecting bath room, clothes and storage lockers. Forward of the motor compartment is a combination galley and mess room connecting with the deck saloon. The forecastle has good accommodations for two, with toilet, lockers, etc. The deck house cabin is equipped with inside steering wheel, buffet, radio, book case and desk, making it excellent for dining, lounging, or navigating the ship.



Triton, designed by Winslow for Charles S. Brown.



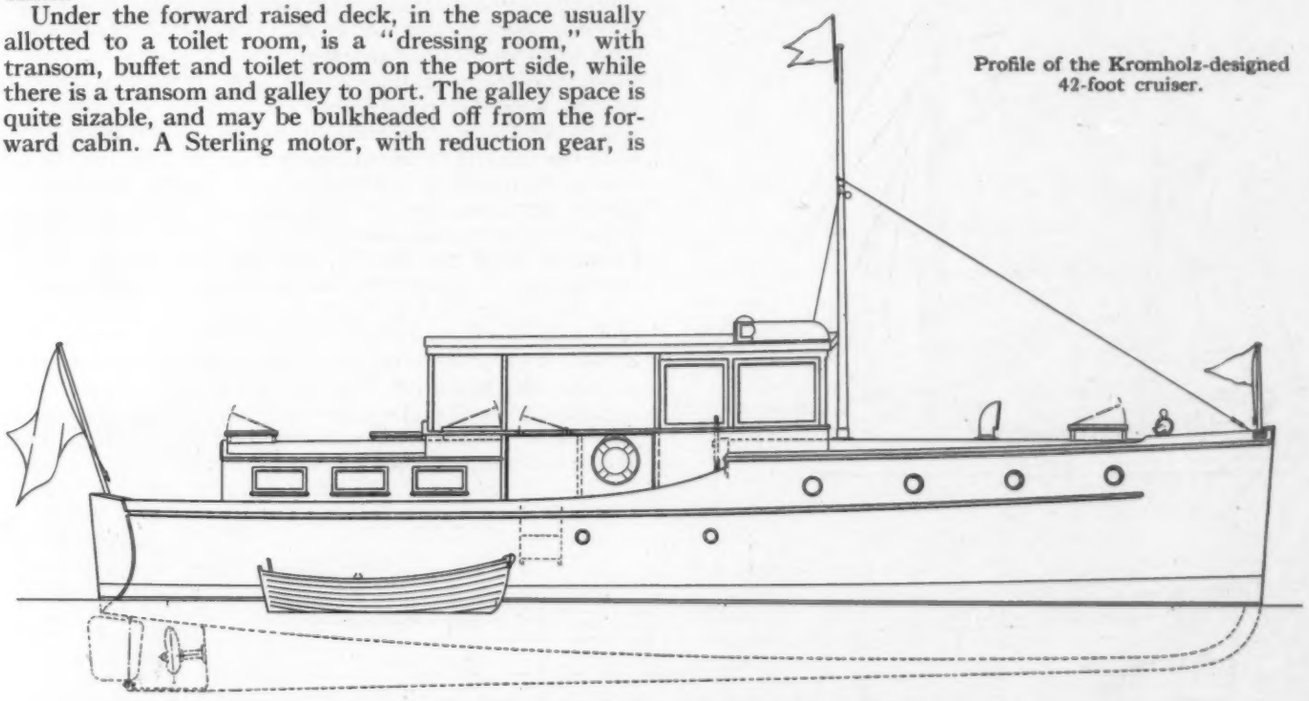
Accommodation plan of *Triton*, the 62-footer described on preceding page.

An Attractive 42-Footer With Unusual Interior Layout

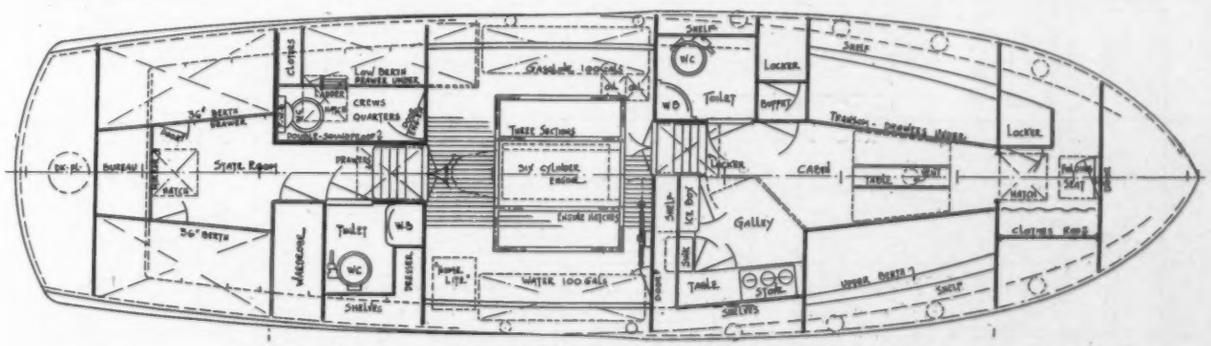
FOLLOWING in general the profile and arrangement of a 45-footer designed last year, the plans below, drawn by L. L. Kromholz, of New York, of a 42-footer, are especially interesting, inasmuch as the design shows the composite requirements of two owners. In each instance, quarters for a paid hand were essential; therefore a small but complete room is incorporated in the layout, and so located aft as to make the "crew" available for service on deck or engine room without his finding it necessary to pass over the deck or through the owner's cabin.

Under the forward raised deck, in the space usually allotted to a toilet room, is a "dressing room," with transom, buffet and toilet room on the port side, while there is a transom and galley to port. The galley space is quite sizable, and may be bulkheaded off from the forward cabin. A Sterling motor, with reduction gear, is under the partly enclosed 'midship cockpit, from which direct access is had to the owner's double stateroom aft. The latter has wide berths, large wardrobe, bureau and connecting toilet room.

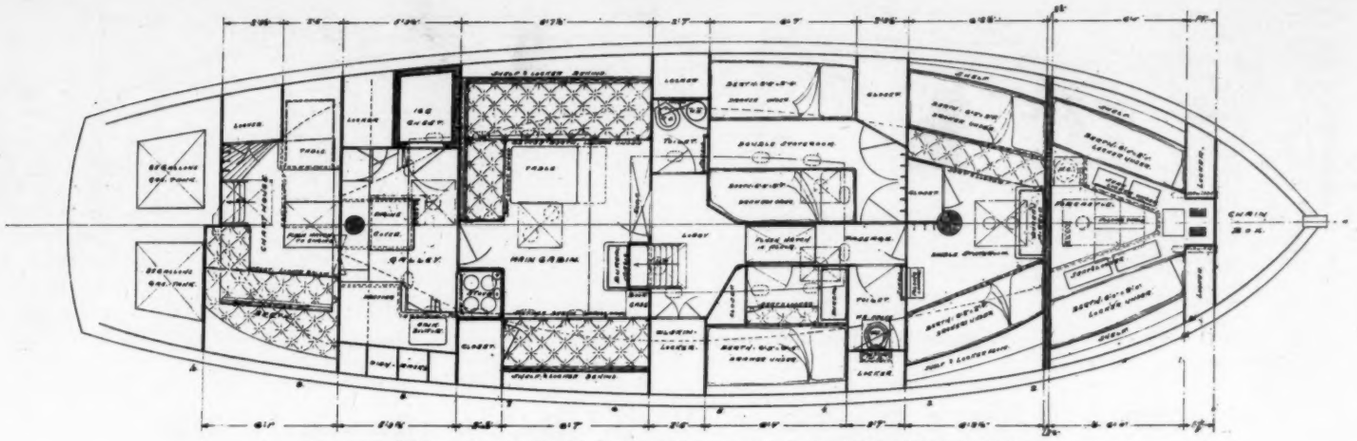
The dimensions are as follows: l.o.a. 42'6"; l.w.l. 41'8"; beam, 11'6"; draft, 3'3". The designer states that he expects a speed of 15 miles an hour or better, and that due to simplicity of construction and equipment, single engine, etc., preliminary bids show the cost of building to be attractively low.



Profile of the Kromholz-designed 42-foot cruiser.



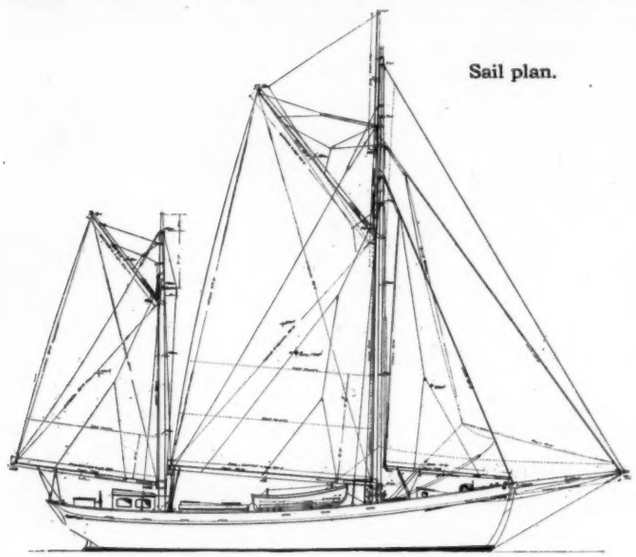
Accommodation plan of the 42-foot cruiser designed by L. L. Kromholz.



Accommodation plan of the 58-foot auxiliary ketch designed by John G. Alden.

A "Seagoing Houseboat" of Unusual Design

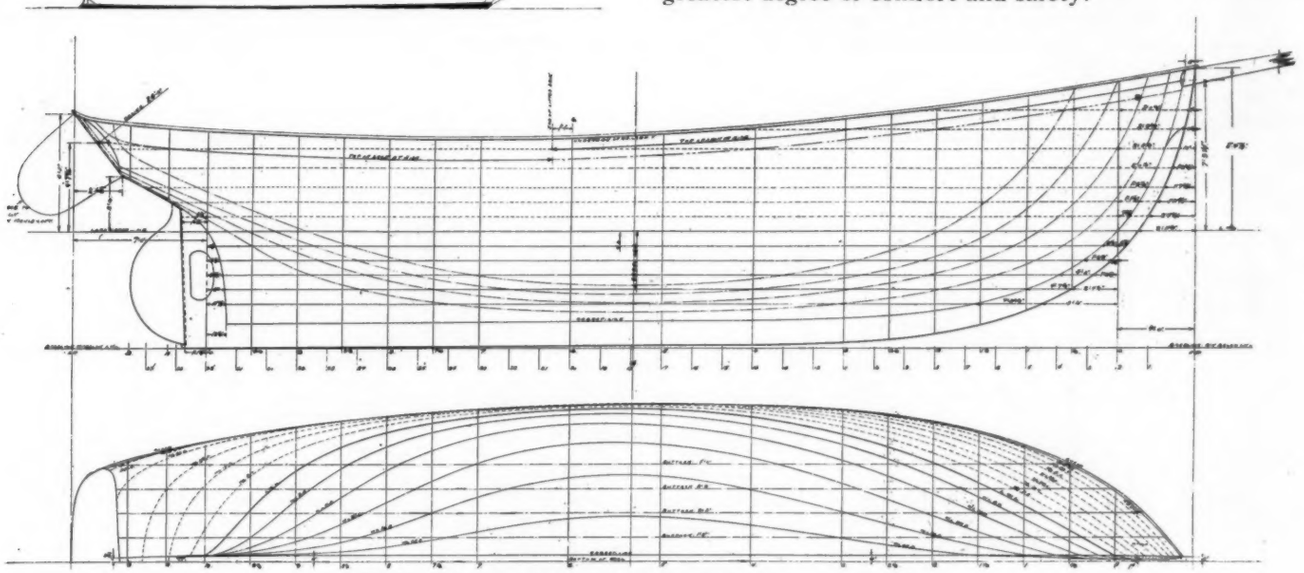
YACHTSMEN who demand the maximum amount of comfort and seagoing ability in the auxiliary line will do well to study the plans on this page of a husky ketch designed by John G. Alden, which, on several trial trips, showed unexpected speed and handiness under both sail and power. This ocean-going craft follows the lines of some of the trading ketches in the Baltic Sea, which are used for fishing besides, and as a floating home by the owner and his family the year round. She is 58′ over all, 49′6″ water line, 16′ beam, and draws 6′ of water, the sail area being 1728 sq. ft. in the four lowers. The entrance is fairly easy, considering the beam; the midship and after sections resemble those of an American coasting schooner, with a bit more deadrise, while the bilges are decidedly hard. The beam and bilge, combined with 16 tons of inside ballast, make her remarkably stiff.



Sail plan.

The deck space and interior accommodations are truly remarkable. The main cabin is palatial in size, and the big athwartships galley, accessible from deck or main cabin, gives every convenience for cooking under any conditions. Then there are two double and one single staterooms, large forecastle with two berths, and semi-sunken deckhouse containing a large chart table, single berth, lockers, etc.

A 3-cylinder, 30 h.p. Lathrop motor developed a speed of 8 miles an hour before being thoroughly run in. Two 85-gallon gasoline tanks and a 150-gallon water tank give a large cruising radius. The designer states that she is not intended to be at all fast, but rather a "seagoing auxiliary houseboat" capable of making good passages with the greatest degree of comfort and safety.



Profile and water lines of the Alden-designed seagoing ketch.

A Six-Metre Boat Design with Interesting Features

AT the conclusion of the recent international six-metre races off Oyster Bay, most of the critics agreed on at least two things, i.e.: American designers had been left far in the rear by their foreign contemporaries, and "something should be done about it."

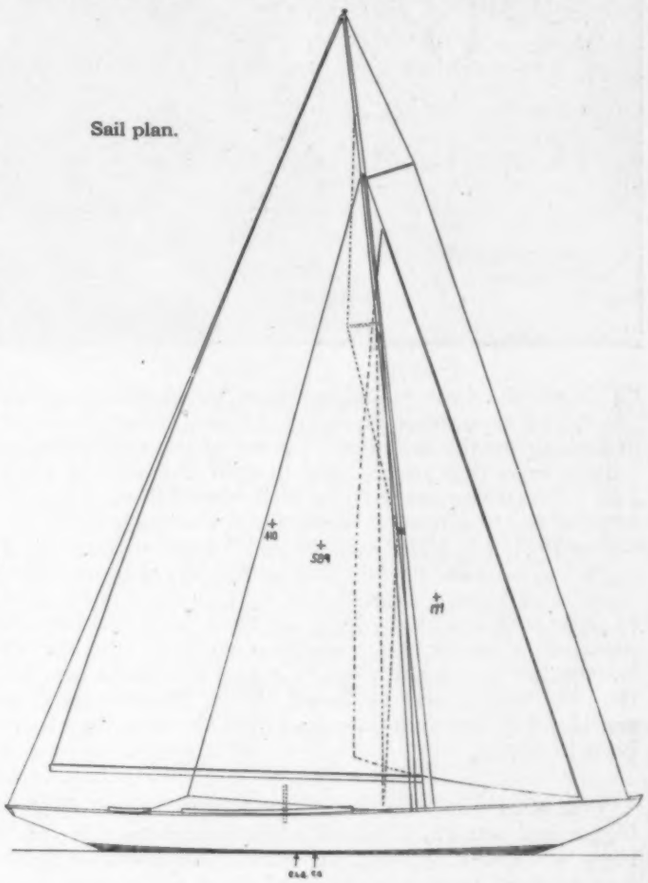
Just what should be done about it is a question. But at least, the ideas of young designers should see the light of day, in the hopes that they might succeed where more experienced naval architects have progressed but little in the past year or so. It is with this idea in view that we publish the accompanying plans from the board of Olin J. Stephens, II, of New York, which show a six-metre boat with possibilities.

The dimensions of this craft are as follows: l.o.a. 34′; l.w.l. 22′ 10″; beam, 6′ 4½″; draft, 5′; sail area (measured), 525 sq. ft.; sail area, actual, 589 sq. ft.; displacement, 8620 lbs. In explanation of the design, Mr. Stephens has the following to say:

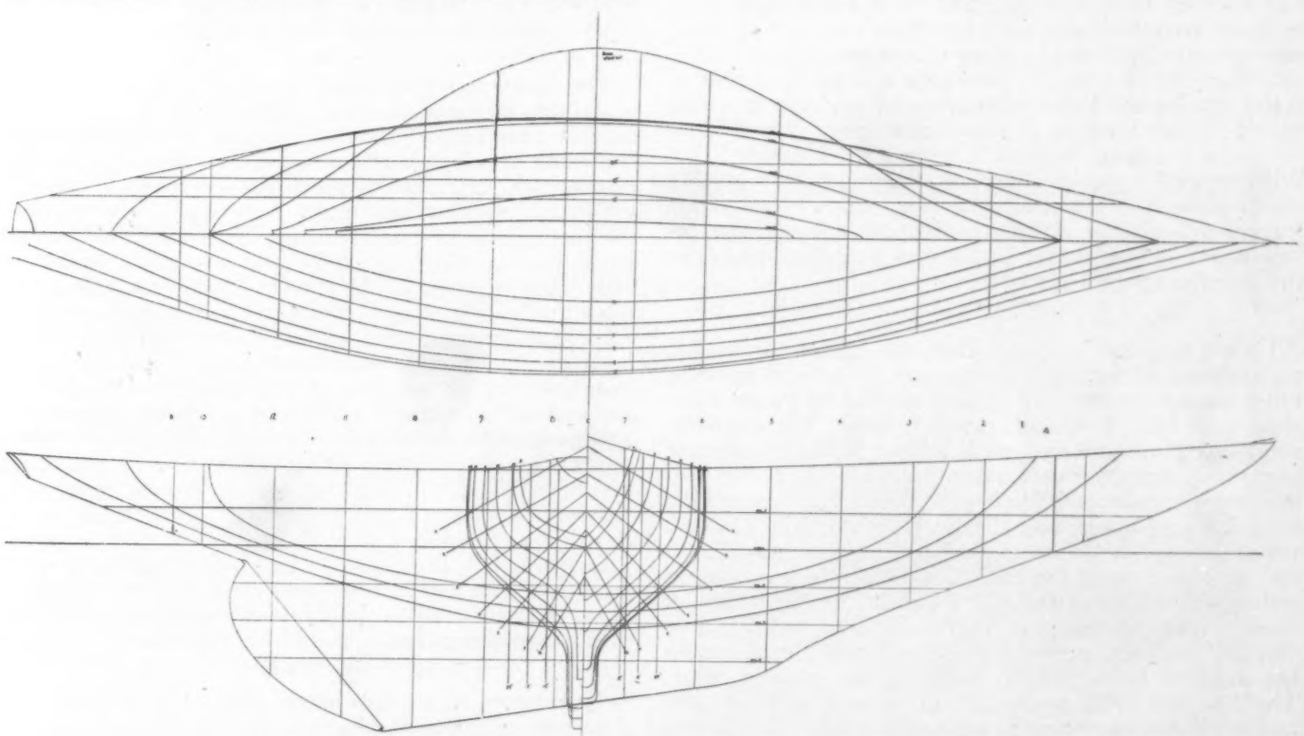
"The design is intended primarily for light weather. In any design the most important factors of speed seem to be long sailing lines and large sail area, with moderate displacement and small wetted surface. Then comes beauty, by which is meant clean, fair, pleasing lines. Though *per se* beauty is not a factor of speed, the easiest boats to look at seem the easiest to drive.

"To produce long sailing lines there are two methods available. First, by using a long water line coupled with fine ends; second, a shorter water line and full ends. The former method has been used in this design. The water line is about the longest of any existing American 'Six.' Though this long water line would ordinarily result in small sail area, this has been avoided by reducing the girth and girth difference measurements to the very minimum, which also lessens the wetted surface. The measured sail area is good, while with overlapping jibs of various sizes it may be said to be ample for the lightest of weather."

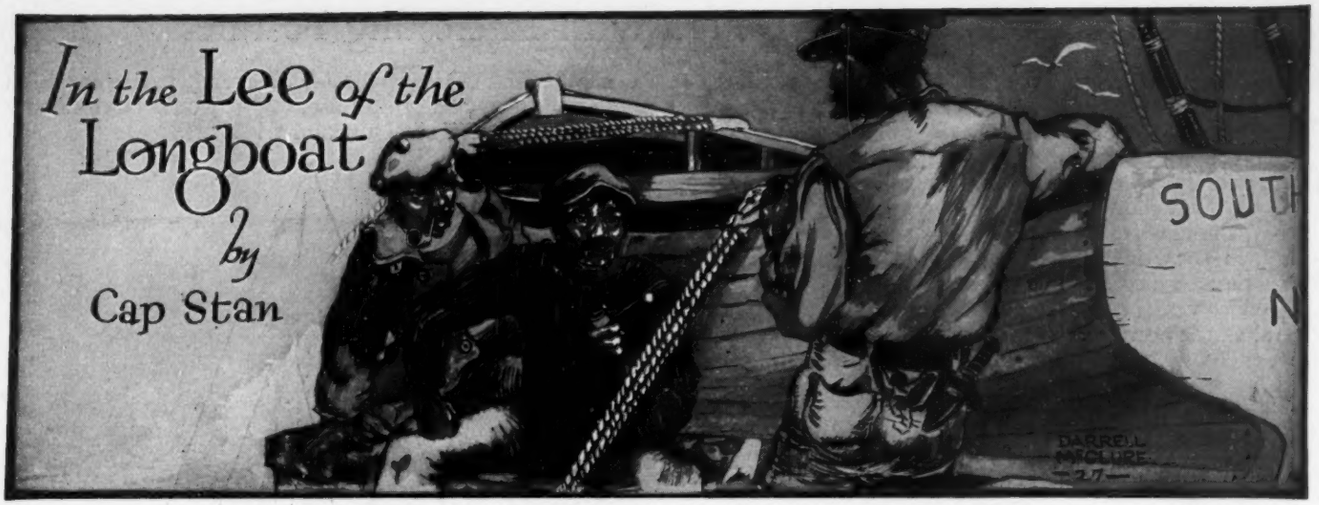
To predict what a boat will or will not do, from a study of her design, is a dangerous undertaking, as experienced designers and critics well know. Nevertheless, this design shows a great deal of promise, and it would be decidedly interesting to see her built and tried out.



Sail plan.



Lines and sections of the six-metre boat designed by Olin J. Stephens, II.



THAT the time made in recent Bermuda races has been slow was forcibly brought to my attention when, in looking up the accounts of some of the earlier races, I discovered that in the race in 1907 the 40-foot yawl *Lila* covered the course in a little over 4 days, 8 hours, whereas the best time in recent years was made by *Memory* in 1924, when she was clocked for the distance in 4 days, 6½ hours. As *Lila* was admittedly a pretty slow hooker, and quite a small one at that, it simply goes to show that conditions have not been favorable for fast passages in recent races, and that with the fine fleet of starters assured for this year's event, it is quite possible that the leaders will be timed off St. David's Head in considerably less than four days from the time they leave New London.

* * *

Year after year, the New York Motor Boat Show gets bigger and better. From all advance reports, this year's show will continue the good work. All available space was reserved some time ago, and the exhibits promise to be more attractive and complete than ever. Just what surprises are in store are more or less of a secret, but I hear that the new model outboards will be eye-openers. What strides the little eggbeaters have made in a few years! Every week or so sees a new speed record hung up, and it is mere guesswork to suggest the ultimate limit. With several organizations and manufacturers getting together on the silencing question, this objectionable feature will soon be a thing of the past. Truly, the development of outboards is an epoch-making phase in the American motor industry.

* * *

I have long had a hunch that the rudders on sailing yachts were all wrong. In other words, instead of being taller than they were long, they should be longer than they were tall, if you get what I mean. For instance, whaleboats were steered with an oar of very moderate blade area, stuck out well astern. If this oar had been held in a perpendicular position it would never have turned the boat, but simply acted as a brake. Why not build a rudder the same way? Well, the idea will get a tryout next season on one of the new 12-metres. The owner believes that a rudder shaped somewhat like a paddle, of much smaller dimensions than would ordinarily be used, will be more efficient, have less wetted surface, and steer the boat with less angle of helm, thereby reducing the braking effect. The 12's will differ somewhat in rig and other details, and it will be interesting to see how the different schemes pan out.

Several people have written in to ask for more dope on the jib furling gear. Unfortunately, I don't believe this gadget is manufactured in this country. However, it can be imported at a very reasonable price from several English concerns. You can get some excellent dope on it by culling out the May, 1924, issue of YACHTING, where you'll find an illustrated article by Dick Parmenter which should remove any lingering doubts as to the efficiency and practicability of this doohickey.

* * *

The rumor persists that next year will see a raise in insurance rates on some classes of yachts. The reason for the raise seems to lie in the fact that the insurance companies have had to pay such a large number of claims during the past few seasons. It is a pity that it does not seem possible to make any distinction between the careless bird who is always in trouble, and the man who goes year after year without ever putting in a claim. Can anyone offer a suggestion for the relief of the majority, who will have to pay steeper premiums because of the shortcomings of a comparatively small number of owners?

* * *

The yachtsman who finds little time during the summer months to do much nautical reading generally makes up for lost time in the winter. This year he is particularly fortunate in being able to pick and choose from a number of new nautical volumes which have recently come out, which deal with various angles of the game. For instance, the racing man can at last secure Dr. Curry's volume on yacht racing, which not only goes into the question of sails deeper than any book has yet done, but also treats of the actual racing of a small craft. It is certainly a whale of a book, and every racing man should get it. For the cruising man, Dr. Claud Worth's latest work, *Yacht Navigation and Voyaging*, is too good to be missed. For the youngsters, Alfred Loomis has penned a mighty interesting and instructive volume in *Sea Legs*, where he combines adventure and mystery with excellent advice on sailing and handling small craft. And for the utmost in intrigue, mystery, adventure and excitement, *The Riddle of the Sands*, by Erskine Childers, just about has all other tales backed off the chart — the kind of book that keeps you up late at night, wondering what is going to happen next. With these and a lot of others from which to choose, yachtsmen are indeed in good luck this winter.

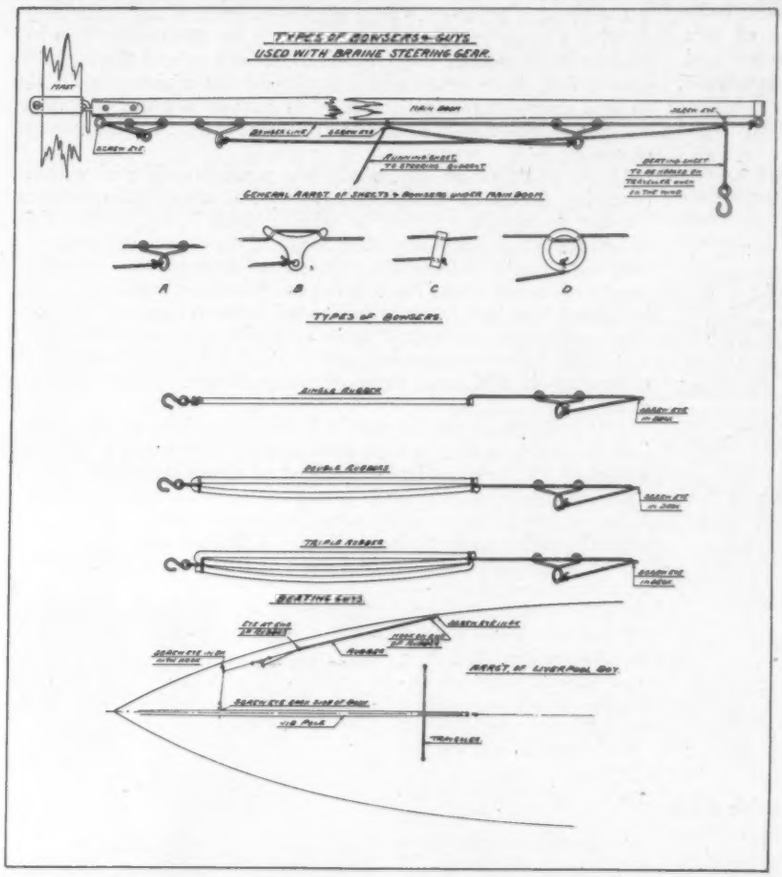
* * *

Newspaper dispatches state that Alain Gerbault, in *Firecrest*, is three weeks overdue at Durban, Africa. Here's hoping the Frog is not in serious trouble.

Fittings for International Model A Class Yachts

THE Braine gear, described in detail in the December issue of YACHTING, for the International Model A Class yachts, requires special fittings that make this type of gear sensitive and positive.

After fitting quadrant to the rudder post and arranging the running sheet as shown in the diagram, the lead is run through an eye on the main boom to the bowser running parallel to the main boom. This bowser consists of a stout line of cotton, linen or hemp, and two slides. One slide is used to keep the line taut and the other is used to make fast the other end of the running sheet



and to make adjustments of sail. The slides, of which there are several types (the most popular are shown in sketch), are made of stout wire, aluminum, brass, bone, or wood. Their function is to make quick adjustments and to have the slide stay fixed by having the line jam in the slide when there is a strain on the sheet.

It is suggested that two bowsers be fitted on the main boom — one for the running sheet and one for the beating sheet. The beating sheet is the same as that always used, and has a hook, generally placed about one inch abaft the quadrant, to snap on the traveler. When reaching or running, the beating sheet is unhooked and wrapped around the end of the boom so as not to foul gear on deck. Both beating and running sheets may be used at the same time for close hauled work, when a slight helm is needed. The amount of helm is limited by the beating sheet.

For jib steering another pair of sheets is used. The ends are hooked in quadrant and led through pulleys set in the deck just abaft the jib traveler and then made fast to a hook. There should be two sets of bowsers on the jib pole — one for beating and one for jib steering. When not in use the jib steering sheet is unhooked from the bowser on jib. Jib steering is used for giving helm when close hauled, for reaching or for forcing the yacht back on her course after she has jibed with spinnaker set. No other steering gear can accomplish this latter trick.

The Beating Guy

This guy, which consists of one-eighth-inch round or square rubber, six to eight inches long, is used for tacking yachts a certain distance from shore without assistance. The single guy is the most popular, as the double and triple guys divide the tension. One end of the guy is hooked to the outer end of the boom. The other end, which has a short bowser for adjusting tension, is hooked to an eye placed about amidships on weather rail.

This phase of model yacht sailing is most interesting. It requires considerable practice to know the amount of tension required to make the yacht "guy" when necessary.

The Liverpool Boy is a guy made of rubber about four to six inches long, with a hook on one end, fastened to leeward chain-plates; the other end, with a bowser for adjustment, is passed through an eye on the rail to an eye on the jib pole, placed about three inches inboard from jib stay. The object of this guy, used with the beating guy only, is to hold the jib to weather after tacking.

JOHN BLACK.

Explanation of Yachting Monthly Cup Rules

THE *Yachting Monthly* Cup Rules published in the October issue of YACHTING are based on a full sized yacht: 6 metres = 19.68 feet. For this reason the rule is rather perplexing if one is not familiar with reducing full sized yachts to models.

The rule states that all models must not exceed 6 metres (19.68 ft.) on a scale 2 inches = 1 foot. For a scale of 2 inches = 1 foot, a model will be $^1/_6$th the size, or 6 metres (19.68 feet) $\times {}^{12}/_{6} = 39.36''$ rating.

For scaling down the other dimensions of the formula the following table will explain how it is done.

$100 - \sqrt{LWL}$ in inches $= 1'' = 1$ ft.

$100 - \frac{\sqrt{LWL}}{2}$ in inches $= 2'' = 1$ ft.

MAX. DISP. $= \frac{LWL}{5} + .5 = 1'' = 1$ ft.

$\frac{LWL}{5} + 1. = 2'' = 1$ ft.

MIN. DISP. $= \frac{LWL}{5} + .2 = 1'' = 1$ ft.

$\frac{LWL}{5} + .4 = 2'' = 1$ ft.

DRAFT, 16% of LWL + 1.75 = 1" = 1 ft.
16% of LWL + 3.50 = 2" = 1 ft.

FREEBOARD 28% of $3\sqrt{D} + .5 = 1'' = 1$ ft.
28% of $3\sqrt{D} + 1. = 2'' = 1$ ft.

Radio.

LETTERS and CORRESPONDENCE

Can You Solve These Problems?

QUESTIONS of right of way at the start of a race are constantly arising, and are the cause of many protests and disqualifications. We present here two problems of this character, with accompanying diagrams. For the proper and most clearly expressed answers to each of these questions YACHTING offers a year's subscription.

Situation 1

At the start of a race, boat A is sailing for the line on a close reach, while boat B is converging on boat A with sheets well slacked off (position 1 in diagram). At position 2, about 30 seconds before the starting signal, boat B swings down on A's weather

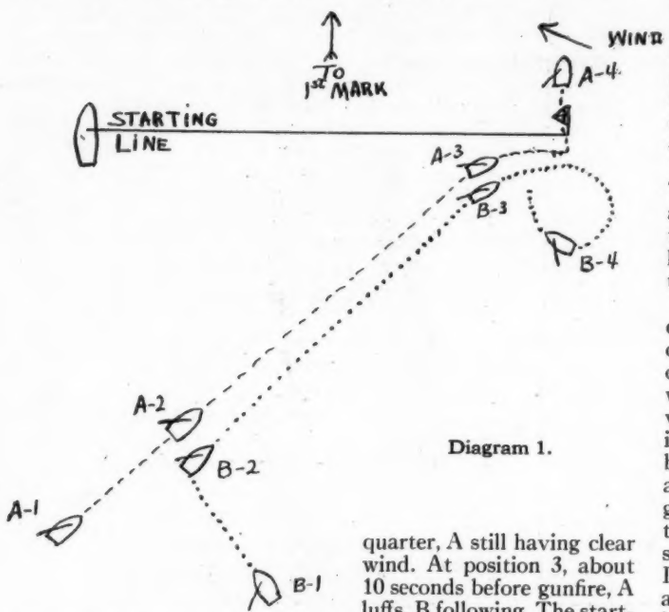


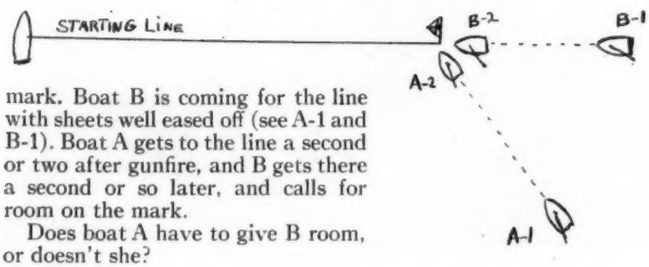
Diagram 1.

quarter, A still having clear wind. At position 3, about 10 seconds before gunfire, A luffs, B following. The starting gun fires just as A reaches mark, B being forced to weather of mark, necessitating her tacking and jibing to make the line.
Did A have the right to force B to weather of the mark, or should she have given B room?

Situation 2

Boats A and B are approaching the starting line on different courses. Boat A is close hauled, laying her course for the weather

Diagram 2.



mark. Boat B is coming for the line with sheets well eased off (see A-1 and B-1). Boat A gets to the line a second or two after gunfire, and B gets there a second or so later, and calls for room on the mark.

Does boat A have to give B room, or doesn't she?

Advocates Roller Reefing Gears

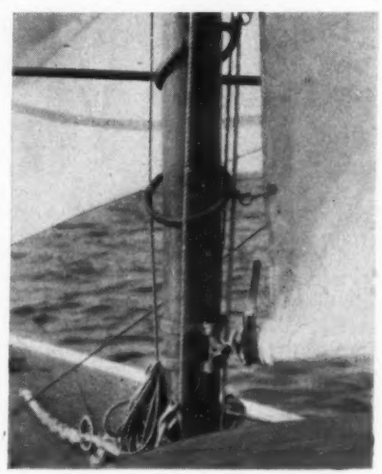
Editor, YACHTING:

IT may be of interest to your readers to learn of my experiences with a roller reefing gear attachment for the mainsail on my 21-foot shallow draft sloop, the sail having a spread of about 400 square feet. Two years ago I equipped the mainsail with the Turner ratchet type gear, No. 3. It proved a great success in every way, and a very decided improvement over the old method of reefing.

Whether on or off the wind, one person could reef without changing the course, and do it leisurely in less than two minutes. All that is necessary is first to take up slack in toppinglift, then disengage luff of sail from mast hoops as far up as necessary — I used snap hooks to facilitate this — then slack off throat halliard slowly with one hand, turning the ratchet at the same time with the other, and last, after sufficient sail is wound up on the boom, adjust the peak halliard. If these evolutions are gone through in the order I have mentioned, and the sail is kept full during the operation, it will wind smoothly around the boom without a crease.

My main sheet tackle required two claw rings on the boom. The one farthest aft was kept from moving forward by a light line attached to the swivel plate at end of boom, to which end of toppinglift was also fastened. It might also be advisable to have a light bronze tube attached between the two claw rings to hold them in their proper position, though I did not use this.

It may be argued that with the sail wound around the boom considerable strain comes on the ratchet. This is, of course, true and I would suggest that in a very heavy blow a lashing be passed around the boom near the ratchet and through one of the grommets on the luff, thus greatly relieving the strain on the reefing gear. It would be advisable, as an added precaution, I believe, to have one line of reef points on the sail — at about where the third reef would ordinarily come — to provide for a possibility of failure of the reefing gear.



In ordering a mainsail to be used with this gear, it is advisable to have on the luff a bronze wire rope in place of the ordinary hemp rope, as the sail will then roll more smoothly.

I have thoroughly tested out this gear in all sorts of weather on Great South Bay, and from my own experience can confidently recommend it to fellow yachtsmen. It makes for comfort, safety and speed, and relieves one from what sometimes is a difficult and dangerous job. It is most satisfactory to feel, when one is shorthanded that, blow high or blow low, and no matter how changeable the weather may be, the skipper can shorten or make sail by night or day with very little physical exertion and, most important of all, very quickly.

While abroad last year I noticed that practically all the modern small yachts on the Bay of Naples and at Venice were equipped with roller reefing gears. On the upper Thames, near London, this device seems to be in common use also.

Some few years ago an article, written by Mr. Parmenter, describing the same type of reefing gear mentioned above and dwelling on the advantages to be gained by its use, appeared in

(*Continued on page 108*)

Nine New CHRIS-CRAFT MODELS for 1928

Presenting
THE FINEST
Most Compelling Array of Fast Luxurious Runabouts Ever Before Offered

On Display
New York Motor Boat Show
January 20 to 28

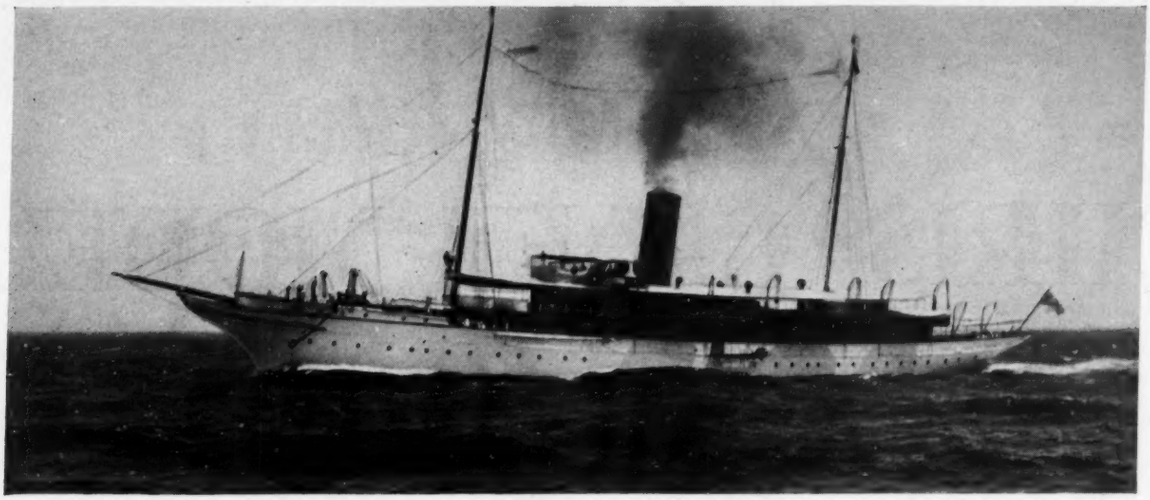
$1095 to $8000

The Chris-Craft all mahogany outboard motor boat is here!

Chris Smith & Sons Boat Co.

ALGONAC MICHIGAN

THE WORLD'S LARGEST BUILDERS OF ALL MAHOGANY RUNABOUTS



Steam yacht *Vanadis*, one of the outstanding large yachts turned out by the firm of Tams, Lemoine & Crane, now Tams & King, Inc. She was owned by C. K. G. Billings and was 277 feet in length.

Of Interest to the Skipper

Tams & King Enlarge and Incorporate

ON January 1, 1928, Tams & King, Incorporated, took over the business of Tams & King, a partnership of Mr. J. Frederic Tams and Mr. Charles King which has been carrying on a yacht brokerage and designing business at 250 Park Avenue, New York City. The new corporation is headed by J. Frederic Tams, as Chairman of the Board, Mr. Charles King, as President, and Mr. Edgar Offer, who has been associated with Mr. Tams and Mr. King for many years, as Treasurer. Two new members whose names are well known in the yachting world have been added to form the corporation, Clement G. Amory, Vice President, and Albert W. Crouch, Secretary.

Mr. Amory, long connected with the Consolidated Shipbuilding Corporation, from which firm he resigned as treasurer three years ago, has had 20 years of practical and theoretical experience in all branches of the yachting business. Mr. Crouch started with Tams, Lemoine & Crane many years ago when they were designing many of the large sailing and steam yachts still famous today. Since then he has been in the designing departments of various prominent yacht and motor boat builders and has had wide experience in all types and sizes of yachts. His last connection was head designer and vice president of the Luders Marine Construction Company, of Stamford.

Mr. J. Frederic Tams, one of the pioneers in the yacht brokerage and designing business, started, in the early nineties, what in a few years became the famous partnership of Tams, Lemoine & Crane. Mr. Charles King, who had been with the firm for several years, became a partner in 1910. In 1914 Mr. Clinton H. Crane withdrew and in 1921 the name of the firm was changed to Tams & King.

In addition to an extensive yacht brokerage business many famous craft of all types came from the designing boards of this firm, among them the following: The famous hydroplanes *Dixies*, fastest of their time; the schooner yachts *Latona*, *Dervish* and *Endymion;* the auxiliary yachts *Idler*, *Ariadne*, *Alcyone* and *Aloha;* the steam yachts *Vanadis*, *Noma*, *Rheclair* and *Nirvana;* and the motor yachts *Tarantula*, *Sabalo* and *Alkacore*.

Among the most recent Tams & King boats several have won distinctive places in their classes — the *Lottie K* and *Phantom*, without doubt the fastest commuting boats; the *Oheka* and *Brook II*, luxurious day cruisers; the *Samuri*, 100-foot houseboat, and the Diesel yacht *Nevada*. Their designs have included, also, many commercial boats, fire boats, tugs, car floats, auxiliary schooners and cargo ships.

Their engineers have solved many interesting and new problems such as the Diesel electric installations in the *Aloha* and *Alcyone*.

Early in the history of the company a marine insurance department was started and its business has increased in volume each year.

Under the guidance of Mr. Tams, and with the services of Mr. King and Mr. Offer, for 25 years associated in the yacht brokerage business, and with the combined experience in supervision and design of new work of Mr. Amory and Mr. Crouch, the new corporation has a well balanced organization, well fitted to cover the wide variety of work which a firm in this business is called upon to handle.

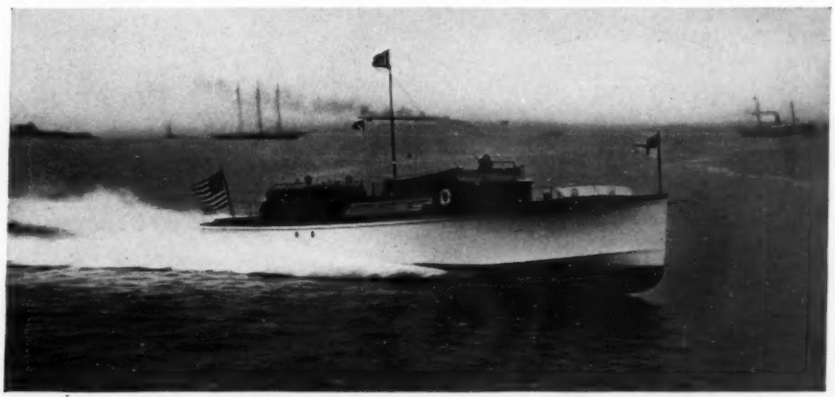
Universal Motor Company's New Factory

Explicit confidence was expressed in the future of the marine motor industry by the directors of the Universal Motor Company of Oshkosh, Wisconsin, when they authorized the building of one of the largest and most modern factories in the industry.

Having outgrown its present quarters, and finding no more building space available near this site, the Universal Motor Company decided to build a new plant. A large tract of land was acquired at the north end of Oshkosh which is ideally located and is only two blocks from Lake Winnebago, where the company's boats are conveniently located for testing motors. Work on the new factory was started in the early part of the summer, and the plant has now been completed.

The new plant is a large spacious building with 60,000 square feet of floor space. One of the features which impresses the visitor is the daylight system employed. This provides a remarkable amount of working light by reason of continuous steel-framed windows along the entire length and sides of the building.

The shop equipment includes the most modern machines for precision work on a



***Phantom*, a fast commuting yacht designed last year by Tams & King for the late Patrick Grant, 2nd.**

Two Seasoned Manufacturers combine their forces to make a Great Marine Engine

THE CONTINENTAL MOTORS CORPORATION of Detroit, Mich.—the largest exclusive gasoline motor manufacturer in the world—and the FAY & BOWEN ENGINE COMPANY of Geneva, N. Y.—one of the oldest and most reliable builders of marine engines and power boats in the world—have combined their experience of more than a quarter of a century to manufacture jointly a full line of powerful six-cylinder, high-speed marine engines of an exceptionally high standard of excellence and which can be sold at moderate prices—to be known as

FAYBOW Continental MARINE ENGINES

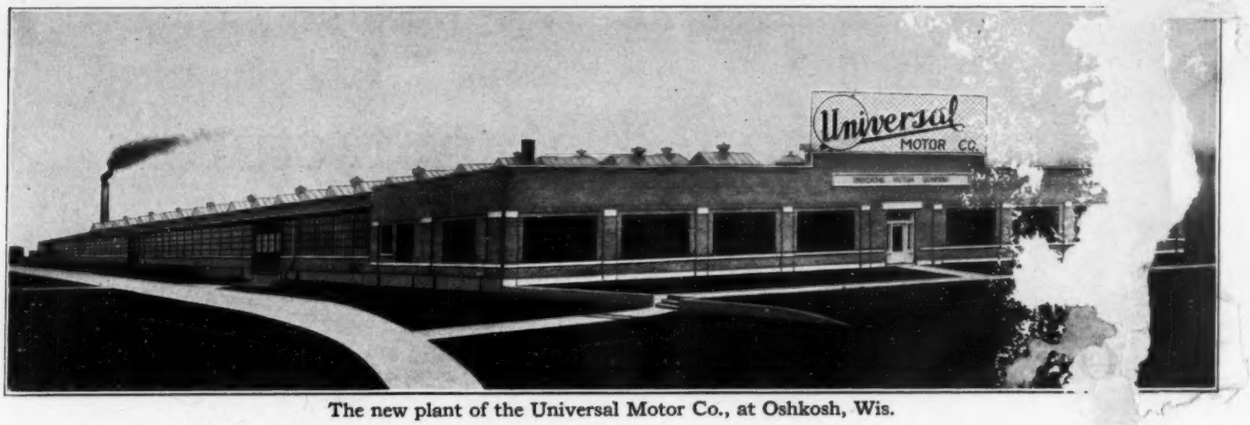
To Distributors Everywhere:

These new motors are now ready for immediate distribution and it is our desire to place them on sale in every boat and engine buying center of the United States and foreign countries. We shall be glad to open negotiations with responsible distributors interested in handling the FAYBOW-CONTINENTAL Line.

Full information on request

FAYBOW-CONTINENTAL DIVISION

FAY & BOWEN ENGINE CO., GENEVA, N. Y., U. S. A.



The new plant of the Universal Motor Co., at Oshkosh, Wis.

quantity production basis. All machines are individual electric motor-driven, which completely does away with belts and pulleys.

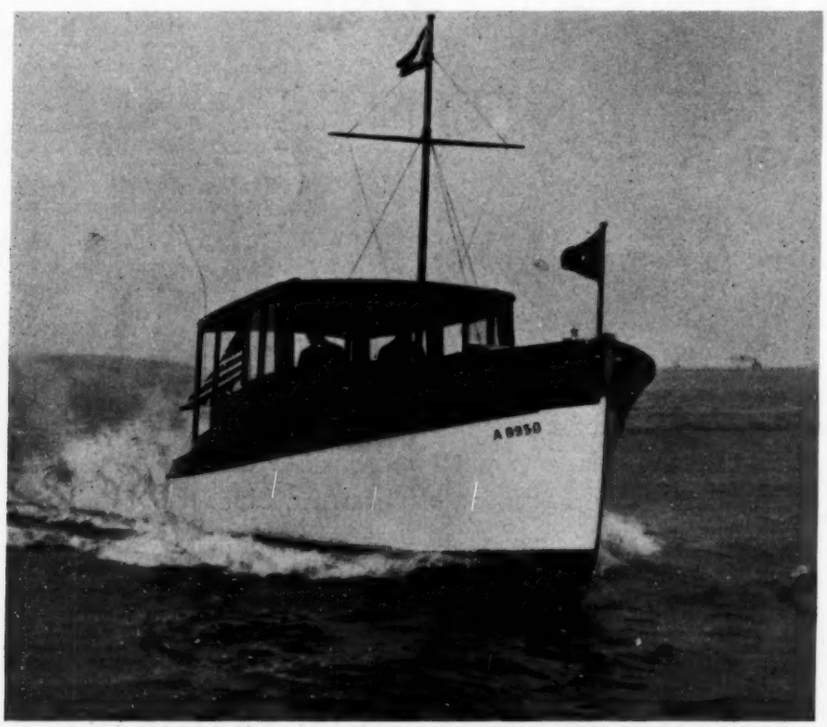
One of the most interesting features of the equipment from an engineering viewpoint is the experimental laboratory which is completely shut off from the main building. A new Sprague cradle type laboratory electric dynamometer of the latest model, with all accessories, is being installed, in addition to the company's present laboratory dynamometer, which permits all kinds of tests for improving and bettering the motors. Special testing equipment to approximate conditions under which machines will be used in actual service has been installed.

In addition to this new factory building, Universal has also recently added a new foundry building which provides facilities for making all their own castings, in addition to supplying a large number of other manufacturing concerns.

The Universal Motor Company pioneered the small 4-cylinder, 4-cycle motor. Starting years ago with only one size, the well-known Flexi-four 10–15 h.p. motor (at that time rated 9–12 h.p.), Universal not only made this motor one of the most popular in its class, but also built a world-wide dealer organization. The demand for larger size motors of the same quality caused the company to decide to enlarge its line. The Universal Super-four, made in models from 15 to 50 h.p., was developed three years ago and met with instant favor. A line of 6-cylinder and 8-cylinder motors is now being developed, and will be announced as soon as production can be started.

A 30-H.P. Outboard

The Cross Gear and Engine Co., of Detroit, Michigan, has announced a new outboard motor which promises to be a decided sensation. It will be a 5-cylinder, 4-cycle, radial type motor, and is expected to develop close to 30 h.p. Among the special features will be a ball-bearing, counterbalanced crank shaft, ball-bearing connecting rods, high compression, puller propeller, pressure oil feed, etc. It will be exhibited for the first time at the New York Motor Boat Show.



One of the standardized 36-foot cruisers built by Gray Boats, Thomaston, Maine, which has created much favorable comment. Powered with a model G-6 Scripps motor as regular equipment, she has a cruising speed of 16 m.p.h.

A New Reversible Clutch

From the Far West comes a clutch development which will be of interest to everyone in marine circles. This roller contact clutch, known as the American Reversible Clutch, is built by the American Mfg. Co., which has specialized in clutch building for 14 years. The American clutch, designed primarily for the Puget Sound fishing fleets as well as large tugboats handling heavy tows in fast water, has been used in quantity for over two years.

It is claimed that every American clutch will give 100 per cent reversing speed and practically full efficiency of power in reverse. Ninety per cent efficiency is guaranteed and from 94 to 97 per cent has been found to be delivered by these clutches.

In the Company's advertisement in this issue the cuts disclose the very unusual reversing mechanism as well as the sturdy multiple disc clutch for driving ahead. Instead of making use of the ordinary spur or bevel gears, the American clutch uses a type of gear designated as a roller gear.

The American Reversible Clutch is now manufactured in nine different sizes, from 5 to 500 h.p., and for any required r.p.m. It is especially adapted to either heavy duty slow speed Diesel or gas engines, or to high speed gas engines. This opens up a vast field in the realm of marine propulsion, not only for small boats but also for larger vessels which heretofore have been severely handicapped by lack of a successful marine reversing clutch properly applicable for heavy duty, slow-turning engines up to 500 h.p.

The Reversible Clutch Corporation of Los Angeles, whose main offices are at 314 East 3rd Street, Los Angeles, has recently taken over the exclusive sale and distribution of the output of the American Plant.

Crouch Designs New 151-Class Racer

Llewellyn T. Savage, of Boston, Mass., is the owner of a new 151-class hydroplane, known as *Massachusetts Two*, which replaces his former *Miss Massachusetts*, crushed by a derrick during the last Detroit Regatta.

The new craft was designed by George C. Crouch, of the Horace E. Dodge Boat Works, who are the builders of the boat.

Kermath Enlarges Plant

The Kermath Manufacturing Co. has recently completed an addition to its Detroit plant. Approximately 9,000 sq. ft. have been added which will be subdivided to take care of necessary departmental expansion.

(*Other trade notes on page 114*)

RELIABILITY

In Winter Playground Waters—

FAYBOW Marine Engines and Power Boats are popular favorites.

No FAYBOW Engine has ever failed to give greater satisfaction than we claimed for it. Conservatively rated, they can be relied upon in every possible emergency and all water conditions.

FAYBOW Runabouts are trim and graceful in design, beautifully built to the last detail, roomy, smooth in operation, as easy to handle as a fine motor car, and economical to run.

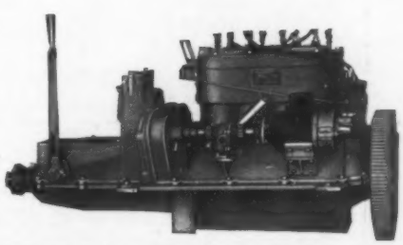
Write for complete information and prices

PRICES REDUCED

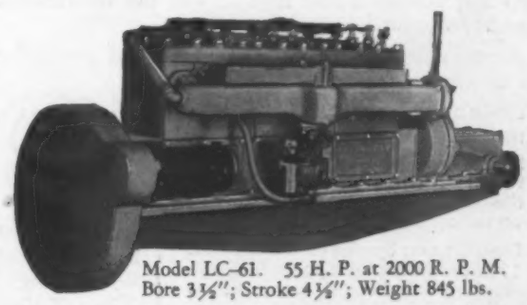
The prices of FAYBOW Marine Engines have been reduced. Now they are the lowest so far established. Our distributors will quote you the new low figures, or write us direct for quotations.

ONE GUARANTEE

Practically every part of a FAYBOW boat and engine is made right in our own plant in Geneva, N. Y.; therefore the dependable FAY & BOWEN guarantee covers your complete FAYBOW—hull, engine and equipment.



LN–403 Gobest. 20 H. P. at 1600 R. P. M. Bore 3″; Stroke 4″; Weight 365 lbs.



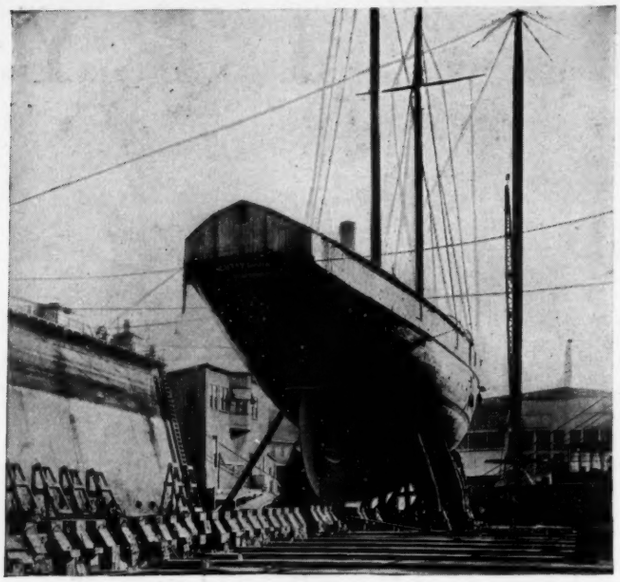
Model LC–61. 55 H. P. at 2000 R. P. M. Bore 3½″; Stroke 4½″; Weight 845 lbs.

FAY & BOWEN ENGINE CO.

GENEVA, N. Y., U. S. A.

FAYBOW

MARINE ENGINES AND POWER BOATS



Westinghouse
Advances
Yacht Design

SINCE Westinghouse developed the Diesel-electric drive for yacht propulsion, designers have been freed from many time-honored restrictions.

With Westinghouse Diesel-electric drive a better arrangement of machinery makes possible additional room.

The generating plant is split up into several units so that vibration and hull strains are distributed and minimized.

A convenient and economical source of power for auxiliary purposes is obtained.

Only a small amount of fuel per mile is necessary, thus providing great cruising radius. The fuel tanks can be located in out-of-the-way places without encroaching on the owner's or crew's quarters.

Send for new Special Publication No. 1776, describing Westinghouse Diesel-electric installations in many famous yachts.

Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania

Sales Offices in All Principal American Cities
Service Stations in Principal American Ports

Some Westinghouse Diesel-electric Yacht Installations

Alcyone
by Tams & King

Aloha
by Tams & King

Cutty Sark
by Tams & King

Elfay
by Herreshoff

Guinevere
by A. L. Swasey

Valero II
by Hancock

Westinghouse

X95559

The Staying of Marconi Masts

(*Continued from page 55*)

stresses. There is also the working of the mast in a seaway to be considered, but with the extremely light modern spars this item is not so important. In other words, light spars mean light wire rigging, thus increasing the stability and behavior of a yacht in a twofold manner.

For our 10-metre yacht we may assume a displacement of 31,600 lbs. and a metacentric height of 3.87 ft. The latter is generally constant up to at least 30° inclination, just when the deck becomes immersed. The righting arm of stability thus equals metacentric height x sine 30°, but as the sail plan is foreshortened as cos. 30°, the net righting arm equals metacentric height x tan 30°, or in this case

3.87 x 0.577 ft.

Moment of stability = displacement x righting arm =
31,600 x 3.87 x 0.577 =
70500 foot lbs.

This is the moment of stability at 30° inclination, our basic figures for estimating the thickness of the wire rigging.

Here will be shown a simple short cut to find the relation between the stability and the stresses in the shrouds, etc. Let P = load on mast evenly distributed
R = reaction from the load in the shroud
l = length of shroud above deck
b = beam of yacht at mast center

It was shown in the July issue of YACHTING that

$$R = P \times \frac{l}{b/2}$$

Now $l = \sqrt{h^2 + \frac{b^2}{4}}$ exactly (h = height of shroud above deck) but in case of yachts $\frac{b^2}{4}$ is very small compared with h^2 and may be neglected without serious error. Hence l becomes = h, and

$$R = P \times \frac{h}{b/2} \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad 5$$

Now the load on the mast being evenly distributed so far as concerns the strain in the shroud, it is evident that

Moment of Stability = ½ Ph, or $P = \frac{2 \times \text{Mom. Stab.}}{h}$

Insert this value of P in formula 5, and we get

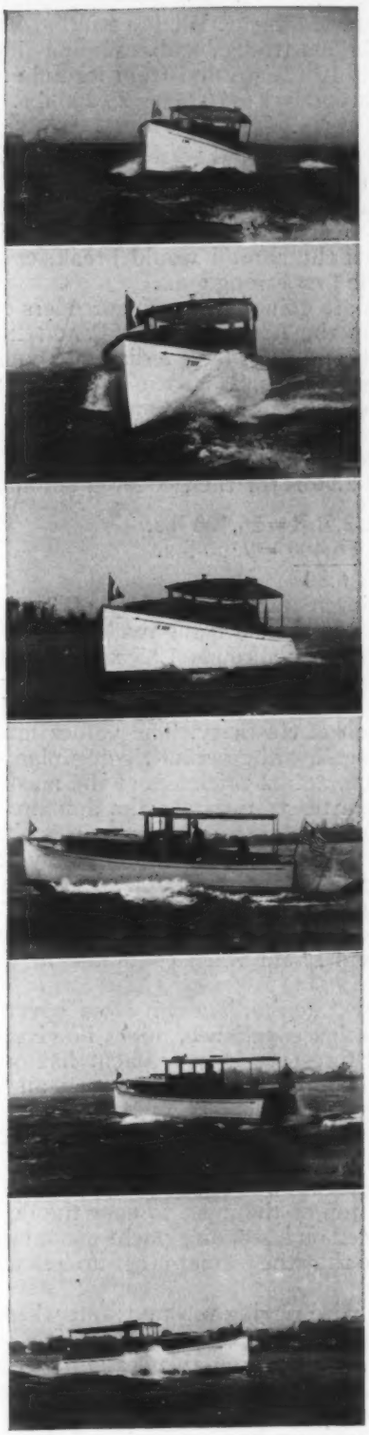
$$R = \frac{2 \times \text{Moment of Stability}}{b/2} \quad . \quad . \quad . \quad . \quad . \quad . \quad .6$$

Formula 6 contains nothing but constant factors for a given vessel, which means that the strain or reaction in a shroud remains the same no matter where it is fixed to the mast, whether high or low, and is very nearly true for all practical conditions on shipboard. It does not mean, however, that the strain in several shrouds at different heights will be the same, as we have seen in the foregoing text.

With the increasing size of yachts, the moment of stability varies as length into fourth power (L^4) or slightly less, whereas the beam varies somewhat more slowly than L; hence the strain and the weight of the rigging increases as L^3 and L^4 respectively, or nearly so, which shows how tremendously fast the weight of the rigging increases with the size of the yacht. As a concrete example, suppose we have to rig two similar yachts, one 6-metre and the other 12-metre. The displacement of the bigger yacht is almost 8 times that of the smaller, but the rigging weight is nearly 16 times as great for the 12-metre yacht, or twice as great, in proportion to displacement. This extra weight of the rigging must be deducted from the lead keel of the bigger yacht, but in actual vessels it is counterbalanced by the proportion-

(*Continued on page 90*)

Richardson



"28"

Repeating The Good News of a Year Ago

WHEN the first Richardson Cruisabout made its appearance on New Year's day a year ago, it was immediately acclaimed as the greatest forward step ever taken in the building of standardized cruisers.

But the outstanding success of a year ago, will be more than repeated with the coming of the new MASTER 28-foot Cruisabout—a boat that sets up a new standard of luxury, smartness, comfort, appointment, power, seaworthiness and enduring value at the remarkably low price of $3585.

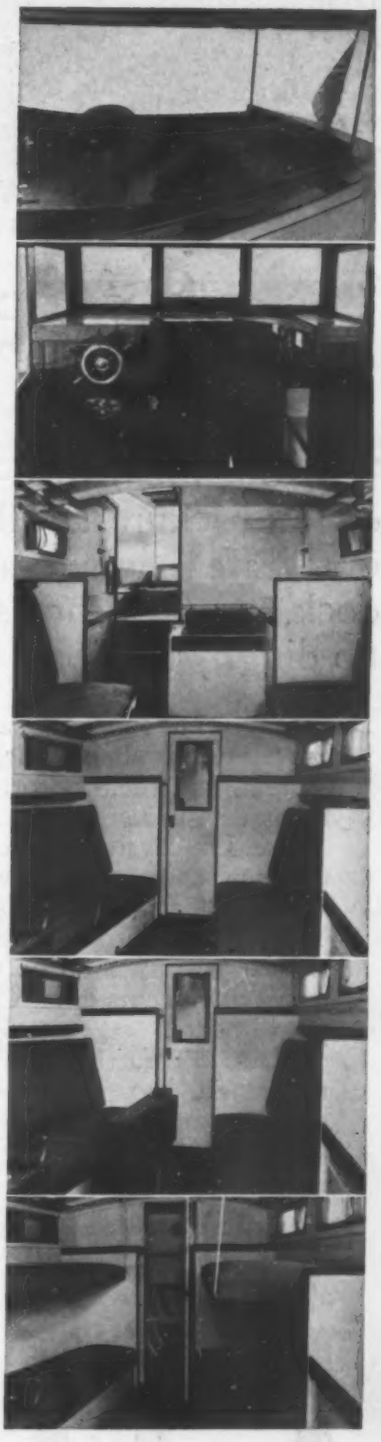
Eldridge-McInnis Designed
Richardson Built
Powered by the GRAY "6-40" Engine

Be sure you know about this sparkling craft the first thing you do this year. The stem-to-stern description of the Master Cruisabout will reveal more refinements, more thoughtful details for comfortable cruising, than you ever expected to find in any boat under $5,000.

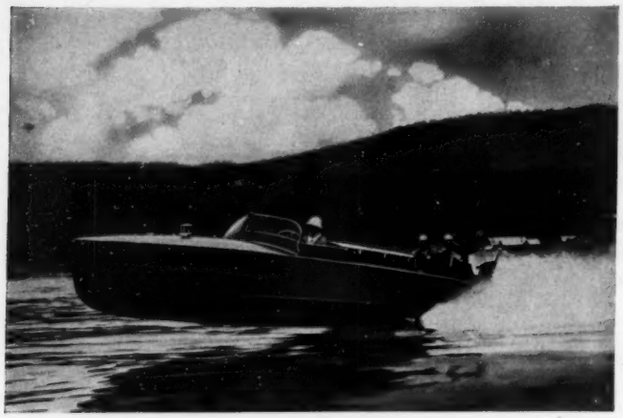
Don't wait for summer breezes to think about your boat for 1928—write for the full picture-story of the Master Cruisabout today and you will be sure to have your boat in the water when the first balmy days come along.

Dealers should act promptly to obtain the Richardson franchise while some open territory is still available.

RICHARDSON BOAT COMPANY
Barge Canal Terminal
380 Sweeney St., No. Tonawanda, N. Y.



Cruisabout



Safe

ALL boats can be made safe from fire. Safe—when the engine backfires and flames break out. Safe—when alongside a dock, or far from shore with no dinghy in tow.

Make your runabout safe from fire. Protect your boat with the Lux System, and then motorboating will become an unadulterated pleasure.

The Lux System is now made in two new compact, lightweight units specially for runabouts and sea sleds. These small equipments are similar to the larger Lux Systems that protect over 700 yachts and Coast Guard patrol boats.

Write for further information on the small Lux System — the only adequate protection for your runabout.

Walter Kidde & Company, Inc.
140 Cedar Street
New York

LUX

The Only Underwriters' Approved
Yacht Fire Extinguisher

ately lighter cabin and other fittings of the bigger yacht. In models the law of decreasing rigging weight holds, and it is simply astonishing to see how light spars, wire rigging, etc., can be used on even a large model yacht. On the other hand, we must not condemn the captains of big racing schooners for not wanting to risk their spars in a strong wind which the small fry could stand up to easily, as far as their rigging is concerned. The blame should be laid elsewhere, of course.

To return to our 10-metre yacht. We have found her moment of stability = 70,500 ft.-lbs., and assuming that her beam at the mast is 10 ft., we find from formula 6:

$$\text{Total strain in the shrouds} = \frac{2 \times 70{,}500}{5} = 28{,}200 \text{ lbs.}$$

For a sudden gust this strain should be multiplied by 2, as mentioned before, and becomes 56,400 lbs. Such a tension would strain a 7/8-inch diameter wire rope to the breaking point at every gust, and after a certain number of knock-downs the shroud would break, even if it did not break at the first strong gust.

Assume now that we are going to fit two spreaders on each side. Formula 3 in the August issue of YACHTING shows that the upper shroud must have a diameter equal to 54% of the two lower shrouds, which are of equal size. If the shrouds are fitted at equal inclination to the mast, the strains in each are proportionate to the loads. From Fig. 8 (August) we find that the strains are equal to R for the top shroud, and 2.90 R for the two lower shrouds. Hence

$$R + 2 \times 2.90R = 56{,}400 \text{ lbs.}$$

$$R = \frac{56{,}400}{6.80} = 9400 \text{ lbs.}$$

Allowing for a minimum factor of safety of 2, this results in the upper or top shroud being made ½inch in diameter, and the two lower shrouds 1.85 x ½ = 15/16 inch in diameter. These thicknesses are the minimum to insure safety under all conditions by never straining the shrouds beyond the limit of elasticity. The values must of course be checked against the actual rigging plan of the yacht, and when the actual thickness of the mast is known it is an easy matter to estimate the amount of bending strain the mast can carry, which strain is then used to reduce the gross strain in each shroud by the moment method. Naturally, the deflection of the mast should be measured from the sail plan for a stretch of 1%, as mentioned before. The net strain will amount to about 92% of the gross strain when estimated in this manner.

In conclusion, a few "don'ts," drawn from over 40 years of practical yachting experience, might be given.

1. Don't fit several forestays if your yacht has only one head sail, but let the fore or jibstay alone carry all the load in order to keep the luff of the sail taut.

2. Never double a backstay in a bridle unless securely fixed at the joint of the three parts.

3. Never use a long strut on a topmast stay, but fit a jumper stay from the top of the mast to near the deck. If a topmast stay is fitted on a seagoing yacht in conjunction with a jibstay, see that the former is set up less taut than the latter.

5. Don't set up the wire rigging too taut, but when it gets slack the second time, beware.

It is the belief of the author that this is the first time the rigging problem has been treated in a simple manner and that reasonable safety of your rigging is insured if the principles outlined are put in practice. Too light wire rigging is a grievous fault because a few pounds more or less do not matter until the wind becomes strong, when too light rigging often goes by the board anyway. The appalling number of broken masts during this summer shows that something is radically wrong, and should be remedied. With a broken mast you cannot win a race but with a few extra pounds in the rigging you still may win.

2 NEW CRAFT

One of them bids fair to "knock your eye out" if you commute or use the water for travel by day.

By all means see the other if you have just longed for a "nice little boat *you* could own".

At the Boat Show

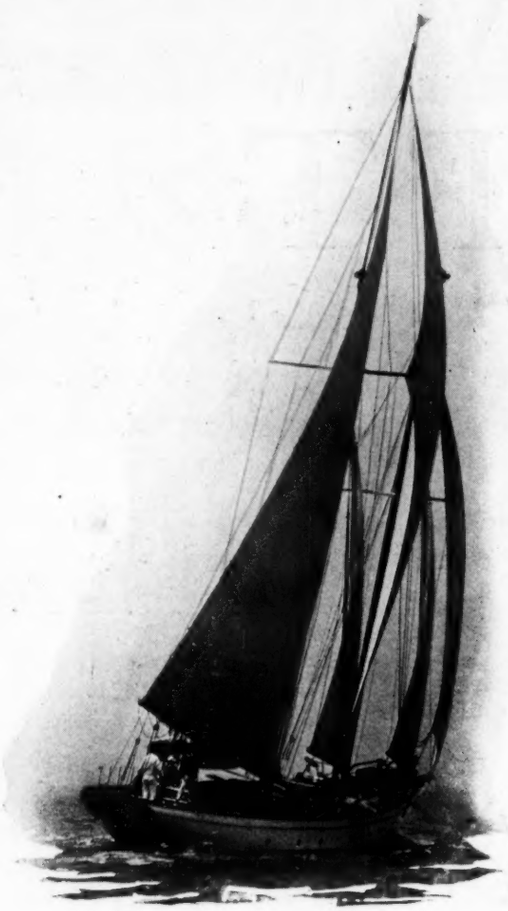
NEW YORK SALES SALON

Spaces B2 and B3

217 WEST 57th STREET

BURROWS

American-Made Yacht Sails



ELISE

Owner—Frank B. Bower, Esq.
Designer—Thomas D. Bowes, N. A.

Elise under staysail rig with special self-trimming upper main staysail.

GEO. R. BURROWS, Inc.,
2 South St., New York City

Cable "Burrosails", N. Y.
Telephones Bowling Green 9062 and 9063

Steeple Chasing on a 12-Ton Yacht

(*Continued from page 48*)

mole. Her head rose high in a sea that broke over for'd. This was followed by another sea amidships but, hove down by the wind on one quarter and thrown ahead by the break on the other, she still drove on. "Glory be to God, she ain't stopped yet!" yelled old Sam. Then a sea broke over aft, completely smothering us; her bows disappeared and her stern rose high in the air and she suddenly came up on an almost even keel. She had taken her seven feet of draft across 50 feet of rubble wall awash in the breaking sea!

We were now outside the harbor in comparatively smooth water under the lee of the mole. The mainsail was clawed down and the foresail, which had broken its stops and was lashing about, lowered and we drove out to sea under bare poles.

A hand sent below reported, to my astonishment, that the vessel was practically dry and making no water, so we let her drive whilst the fore sheets were cleared and the sail reset. Then we hauled up for the harbor under this sail alone whilst the mainsail was being close reefed. Thankful indeed I was when in that vicious sea the sail was reset without accident. Through the darkness and blinding hail squalls we beat up the narrow channel to Port Chalmers, overtaking on the way more than one launch and sighting some of our competitors, brought up under the various headlands, and finally the government steamer going down to their assistance.

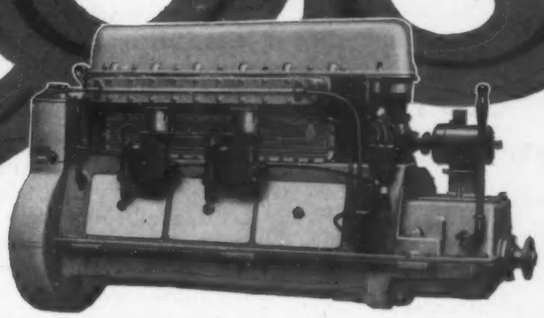
I think that *Yvonne* never sailed faster, for at 9.30 P.M. we picked up our moorings, the whole adventure having occupied only a little over two hours. Remarkable to relate, a few strokes of the pump cleared all the water which had found its way below during the violent squall, the bumping over the mole, and the heavy beat up the harbor, and so after one of my wildest yachting experiences we were safely moored in a tight ship. With the exception of the jib not a rope yarn had been lost for, curiously enough, I had left the useless tiller to retrieve the binnacle lamp which was leaving us, in the height of the trouble on the mole.

After stowing ship and absorbing a liberal amount of cherry brandy, my friends and myself caught the last train to town, changing into dry togs on the car.

By the next morning, Christmas Day, the weather had settled down to a steady 50 m.p.h. blow, the first squall having swept on over the whole length of the Dominion, doing much damage to vessels, buildings, and crops, and also causing some loss of life. At 6 A.M. I telephoned to the Harbor Office and learned that all the yachts were safe with the exception of *Pera* which had been dismasted and blown to sea. She was picked up by a fisherman and towed into Oamaru later in the day. I then arranged for the slipping of *Yvonne;* on this being done the hull was found to be scarred on the starboard side, but not a seam started nor a plank split. The lead keel, however, had suffered more; there was a large cavity in the fore end and much of the copper sheathing was torn and displaced, but so well did the shipwrights work that in a couple of hours everything was in order and *Yvonne* was in trim for a race on the following day. From then on she has shown no evidence of the battering she endured — eloquent testimony of the strength and elasticity of the diagonal system of construction, and an example of the desirability of maintaining everything in the very best of condition, for failure of hull or gear on the mole must, under the conditions which existed, have meant the total loss of vessel and crew.

For some time afterwards amusing incidents connected with our adventures cropped up. One occurred just a fortnight later when, on our return voyage, Sam asked me to inspect his chest which he said did "not seem right like."

KERMATH Low Cost



Not only is the Kermath's first cost the last cost, but also it's the lowest for value received.

For horsepower—for speed—for stamina—for long life—for downright dependability, the Kermath Boat Engine will cost you less than any comparable selection you might make.

A wide range of sizes and speeds from which to choose, yet each possesses the uncommon combination of simplicity, reliability and economy. Low cost! That's Kermath.

Write and tell us in what size or type you would be interested.

KERMATH MANUFACTURING COMPANY
5893 Commonwealth Avenue, Detroit, Michigan
90 King St. West, Toronto, Ontario

3 to 150 H. P.
$135 to $2300

"A Kermath Always Runs"

Boston Display Rooms—1037 Commonwealth Ave., Boston, Mass.
New York Display Rooms—50 W. 17th St., New York City

BUDA

Marine Engines

at the

Motor Boat Show

To be held in New York
January 20th-28th, 1928

Will Be of More Than Ordinary Interest

Please Bear This in Mind and Make a Memo to "See Buda at the Show"

THE BUDA COMPANY
Established 1881
HARVEY (Chicago Suburb) ILLINOIS

BUDA POWER

I was horrified to find it in a shocking condition, contused and raw.

"Good heavens, Sam, how did you do this?"

"I think it was the night we jumped the mole, sir. I got a rare battering from them foresail blocks."

"But, man, that was a fortnight ago. Have you just discovered it?"

"Yes, sir. You see, when I comes aboard after putting you gentlemen ashore I finds the fo'c's'l lamp out. I was dog tired and wet through so I shifts in the dark into dry things and turns in and when I comes to shift myself again today I finds this here."

"Do you mean to say that you have not had your underthings off since then?"

"Yes, sir, I shifts myself once a fortnight and that's as much as any man should."

"It will have to be once a week in future, Sam."

And so was established another grievance against "that man in America who wants to wreck all the little yachts, he does, else why should he give those cups for races at sea? It's no fit work for them play-toys." Hard old shellback who dearly loved his grumble, but loyal and reliable — a thorough sailor — he has passed away, the last of his class I have been able to find. This sort is not made on steamers.

Deep Water Sailing

(*Continued from page 45*)

forward more than twice as much as the other. Every one knows that it is impossible to hit a man with a fist that is already touching him and that it must be withdrawn before the blow can become effective. Moreover the farther it is withdrawn the more violent becomes the blow which may follow. The same thing holds good when a vessel is pitching. If the bow does not rise clear of the water she cannot pound. The two water lines drawn show the great extent to which the modern type of bow leaves the vessel's "guard" open, to continue the metaphor. Some extreme forms lay themselves open to a whole series of punches below the belt, and are knocked out just as a boxer would be.

In one other respect I think the long-keeled ship with a good forefoot has an immense advantage over the other. When a vessel is hove-to in a really heavy sea she will heave her bow a long way out of the water as she breasts each wave. In such conditions the hull windage is very great, and the pressure increases with every foot in height above sea level. The bow of the yacht which throws her whole forebody clear of the water as she scends is blown off. Compared with the older type the windage is greater and there is very little to grip the water; so off goes her head, she brings the wind aft, feels the whole pressure of it, lies down, and rushes ahead just at the moment when the next sea is liable to catch her broadside-on. Even with the most careful and skillful handling she cannot be kept quiet, whereas the old type of yacht will lie steadily, hour after hour, with no one at the helm. Neither in *Jolie Brise*, nor in the other yachts which I have mentioned, was it ever necessary to have a man at the helm in order to keep the boat steady when hove-to. It is true that when *Jolie Brise* was caught in a very heavy gale in the Gulf Stream while on her passage from Falmouth to New York we did nurse the helm for some time; but that was for quite a different reason, namely, fear of damage to the rudder and steering gear, a subject which demands notice later when discussing the handling of a yacht in a gale of wind.

(*To be continued*)

WHAT BOAT IS COMING IN THIS SPACE ?

Something Revolutionary! To be Revealed at the Motor Boat Show

YOU WILL BE ABLE TO LOCATE IT EASILY BY THE CROWDS AROUND IT

Here is the real surprise of the Show—something that will astonish all owners and prospective owners of outboards, family runabouts, yacht tenders or racers.

Created by scientific, experienced engineers and architects but so radically new in its principles of design that it will set the entire outboard motor boat world by the ears, the minute the doors of the show are opened.

Already endorsed by some of the greatest experts whose names are by-words of knowledge and conservatism, this boat means the end of old ideas of outboard motor boating, the establishing of new world's records, the adoption of outboarding by people hitherto only satisfied with more costly boats. It heralds an entirely new era in American small craft.

Whether for you and your family or for "the boy" you will find SPEED-CRAFT models have:

The Strength of a cruiser
The Comfort of the finest runabout
The Weight of an aeroplane pontoon
The Safety and dryness of a 30-footer
The Speed of 35 m.p.h. in the higher classes

All of the above and more at the price of the ordinary classes

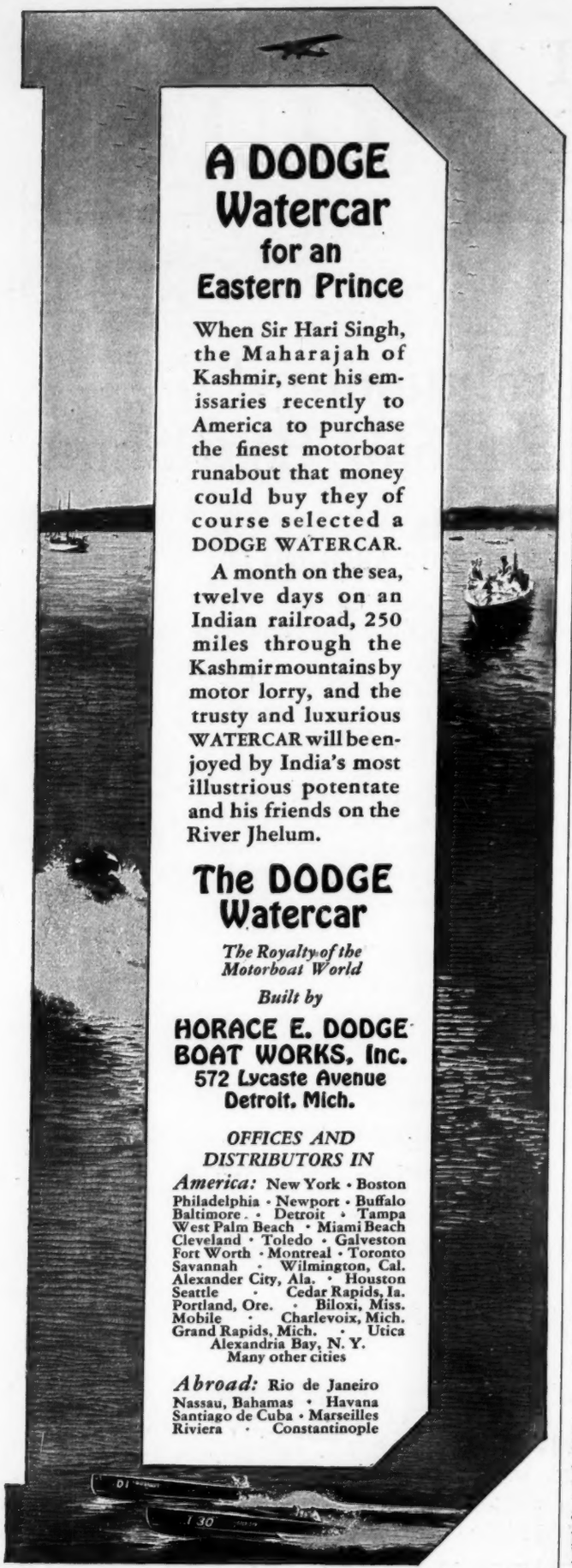
DEALERS GET IN ON THE GROUND FLOOR

Get your application for an agency in now, subject to your further investigation of this boat.

See it at the Show and cash in on this wonderful opportunity by acting NOW.

SPEED-CRAFT INC.

E. WESTON FARMER, N. A., MANAGER
New York Office: 85 Chambers St.
NEW YORK


A DODGE
Watercar
for an
Eastern Prince
When Sir Hari Singh, the Maharajah of Kashmir, sent his emissaries recently to America to purchase the finest motorboat runabout that money could buy they of course selected a DODGE WATERCAR.
A month on the sea, twelve days on an Indian railroad, 250 miles through the Kashmir mountains by motor lorry, and the trusty and luxurious WATERCAR will be enjoyed by India's most illustrious potentate and his friends on the River Jhelum.
The DODGE
Watercar
The Royalty of the Motorboat World
Built by
HORACE E. DODGE
BOAT WORKS, Inc.
572 Lycaste Avenue
Detroit, Mich.
OFFICES AND DISTRIBUTORS IN
America: New York • Boston
Philadelphia • Newport • Buffalo
Baltimore • Detroit • Tampa
West Palm Beach • Miami Beach
Cleveland • Toledo • Galveston
Fort Worth • Montreal • Toronto
Savannah • Wilmington, Cal.
Alexander City, Ala. • Houston
Seattle • Cedar Rapids, Ia.
Portland, Ore. • Biloxi, Miss.
Mobile • Charlevoix, Mich.
Grand Rapids, Mich. • Utica
Alexandria Bay, N. Y.
Many other cities
Abroad: Rio de Janeiro
Nassau, Bahamas • Havana
Santiago de Cuba • Marseilles
Riviera • Constantinople

On the Far Reaches of the Pacific

(*Continued from page 60*)

westward, past Cape Yerimo into Tzugar Straits for Hakodate. We stayed a week in port without incident and left on the 15th of July, passing out through Tzugar Straits, course E.S.E. and wind variable from the S.W. to S. Then we coasted to the N.E. along the wild Kurile chain — that rugged mountainous barrier of volcanic rock which stretches for over 500 miles of desolation to the north and separates the great Okhotsk Sea from the Pacific. There are three large islands and about 15 small ones, snow covered till late in May and mostly uninhabited, except for a few hardy fishermen. Several openings pierce this formidable barrier, but a fair wind is needed to negotiate most of them. Boussole Strait, named, I think, after Dumont D'Urville's famous frigate, is the favorite and was the one which we used, passing by the first one, Pico Channel, where the bark *Europa*, of New Bedford (called the *Black Europa* to distinguish her from the Edgartown *Europa* with painted ports in which, by the way, I made my first voyage as a boy of 12) was lost in 1887. As I have heard the true story of that wreck more than once, and in detail, it may prove of interest.

The Loss of the *Black Europa*

The *Black Europa* was one of William Swift's fleet of whalers. Captain Hallett, of Nantucket, was master. In the month of March, 1887, she was cruising for right whales along the coast of Yezo, keeping close to the shore — three to five miles. No whales were seen. They continued to follow the coast line north and early in April had reached the neighborhood of Broughton Cape. From this point four small islands stretch away about 30 miles to the N.E. The last one, Skotan, is the site of an extinct volcano. It is a small island, not more than six miles across in its widest portion. Forty-five miles away, bearing almost directly N.W. from Skotan, are Pico Straits, or, as the whalemen knew them, Kumashiri Straits, about five miles in width. The island of Iturup is on the north and on the south is Kumashiri, whose eastern coast is low, rising gradually to the mountains in back, and covered with snow in the spring. It supports a few small fishing villages. Those are treacherous waters.

The instructions to the *Europa* were that if unsuccessful off the coast of Yezo, go into the southern Okhotsk right whaling. So they swung off to go through Pico Channel with a strong northeast wind and occasional snow squalls. It should be noted in passing that northeasters are not so violent in Pico Channel in April as off Thatcher's Island in February, but at any rate, as Captain Hallett afterwards said, "Orders are orders."

After rounding Broughton Cape they fell in with open ice at about 9 o'clock in the forenoon watch, and the mate took his station in the bow to con the ship through. It was a nerve racking morning, but they made headway and near noon the snow ceased falling, and the air cleared a little, giving them an extreme vision of about three miles. The slight clearing of the atmosphere showed what they took to be heavier ice close at hand and they sheered off, but not soon enough, for that ice was the snow covered shore of the island of Kumashiri.

"That's no ice," roared Peters, the second mate, "that's the bottom." Sure enough it was. They struck a little to the left of the channel, and in 15 minutes were hard and fast. Meanwhile the snow began to fall again, with an increasing wind and sea, the ice driven by the N.E. wind wedging her further and further up the beach and piling up to windward. This was their salvation, for protected by its wall they were finally able to go ashore. Here they built a shelter on the beach — a sort of tent — and patiently set to work to salvage, in so far as possible,

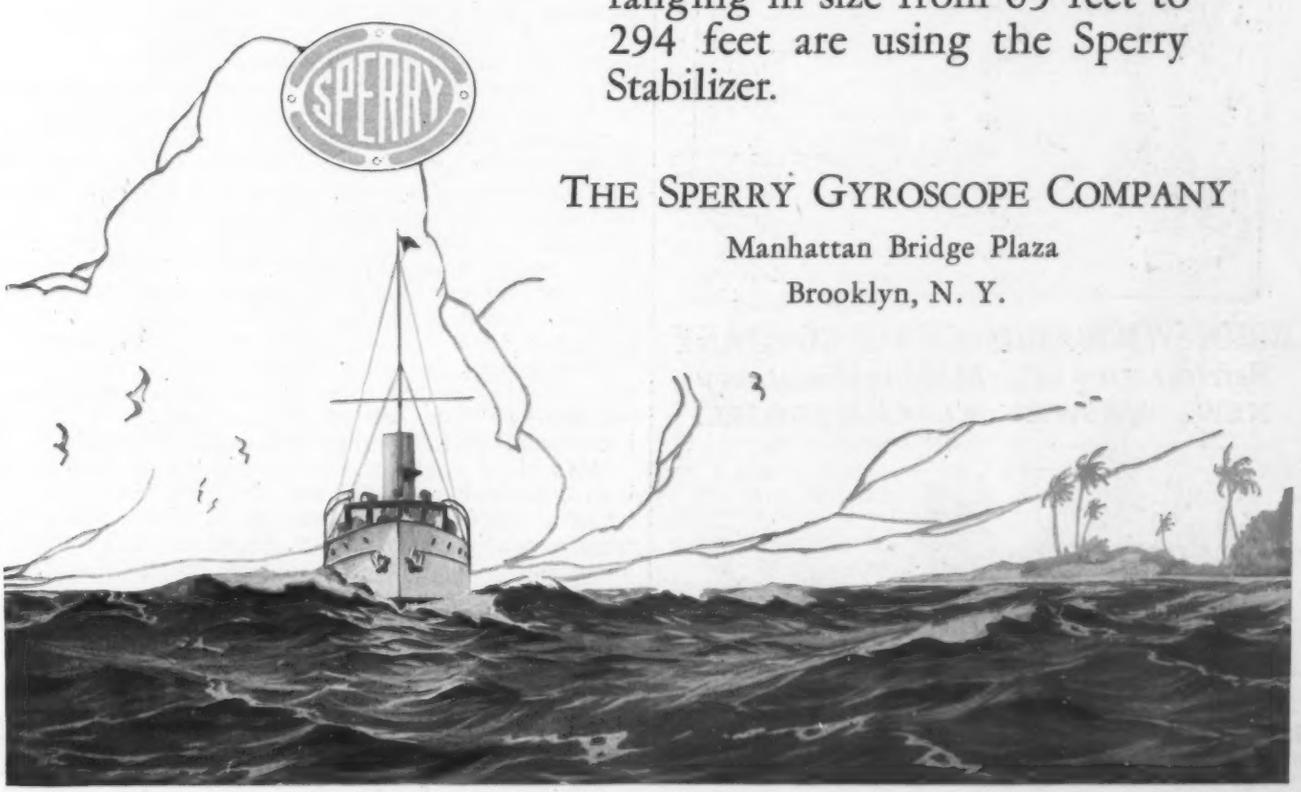
ENJOY YACHTING IN ANY WEATHER

EVERYONE who knows the sea, is familiar with the call to its bracing air, quietude, restfulness and its open highways to enchanted coasts and cities. The modern yacht affords everything for its owner and guests to enjoy the urge of the sea to its utmost—everything except the weather. *By eliminating the roll, the Sperry Stabilizer now insures a comfortable voyage, even in bad weather.*

Many yachtsmen are enjoying the comforts of the ocean liner with the aid of this simple and rugged equipment. Yachts ranging in size from 65 feet to 294 feet are using the Sperry Stabilizer.

Visit our exhibit at the Motor Boat Show and see the model Stabilizer, Gyro-Compass, "Metal Mike" (automatic steering system) and 30,000,000 beam candle power Searchlight in operation.

THE SPERRY GYROSCOPE COMPANY
Manhattan Bridge Plaza
Brooklyn, N. Y.



BRUNSWICK-KROESCHELL REFRIGERATION

M/Y "R. DREAM"

HENRY C. GREBE & CO., INC.
WRIGLEY BUILDING
400 NORTH MICHIGAN AVENUE
TELEPHONE SUPERIOR 0990-7

NAVAL ARCHITECTS
MARINE ENGINEERS
YACHT BROKERS
MARINE INSURANCE

CHICAGO,

November 3
1 9 2 7

Brunswick-Kroeschell Company,
New Brunswick,
New Jersey.

Attention: Mr. R. L. Tomlinson

Gentlemen:

We can very highly recommend the installation of your equipment on the larger yachts.

A 3/4 ton Brunswick-Kroeschell ice machine was installed in the 103 foot Diesel yacht designed by us and built by the Great Lakes Boat Building Corporation for Mr. H. C. Vilas of Chicago.

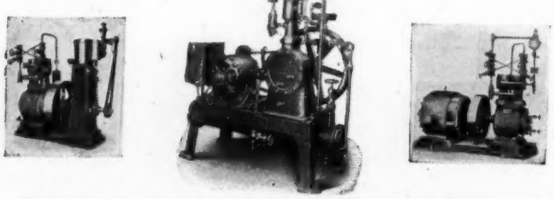
This yacht has now been in commission about three months and the ice machine has proven most satisfactory.

Very truly yours,

HENRY C. GREBE & CO.INC.

HCG:M

BRUNSWICK-KROESCHELL COMPANY
Refrigerating & Ice Making Machinery
NEW BRUNSWICK, N.J. - CHICAGO, ILL.
BRANCHES, AGENCIES AND SERVICE IN PRINCIPAL CITIES



201
TYPE OF BRUNSWICK REFRIGERATING MACHINES FOR MARINE SERVICE

everything of value. The larger part of the crew remained with the ship but picked men were sent overland down the coast to the south to seek help. After a rough journey they reached a sizable town on the mainland of Yezo, stated their case to the mayor and obtained help. An indication of their Yankee resourcefulness was that their next step was to auction off the vessel and contents, and they succeeded in selling practically everything. Seven or eight years later I saw some of their staves in a storehouse in Hakodate — the numbers were on them but they were all thrown together in hopeless confusion, thereby greatly lessening their value.

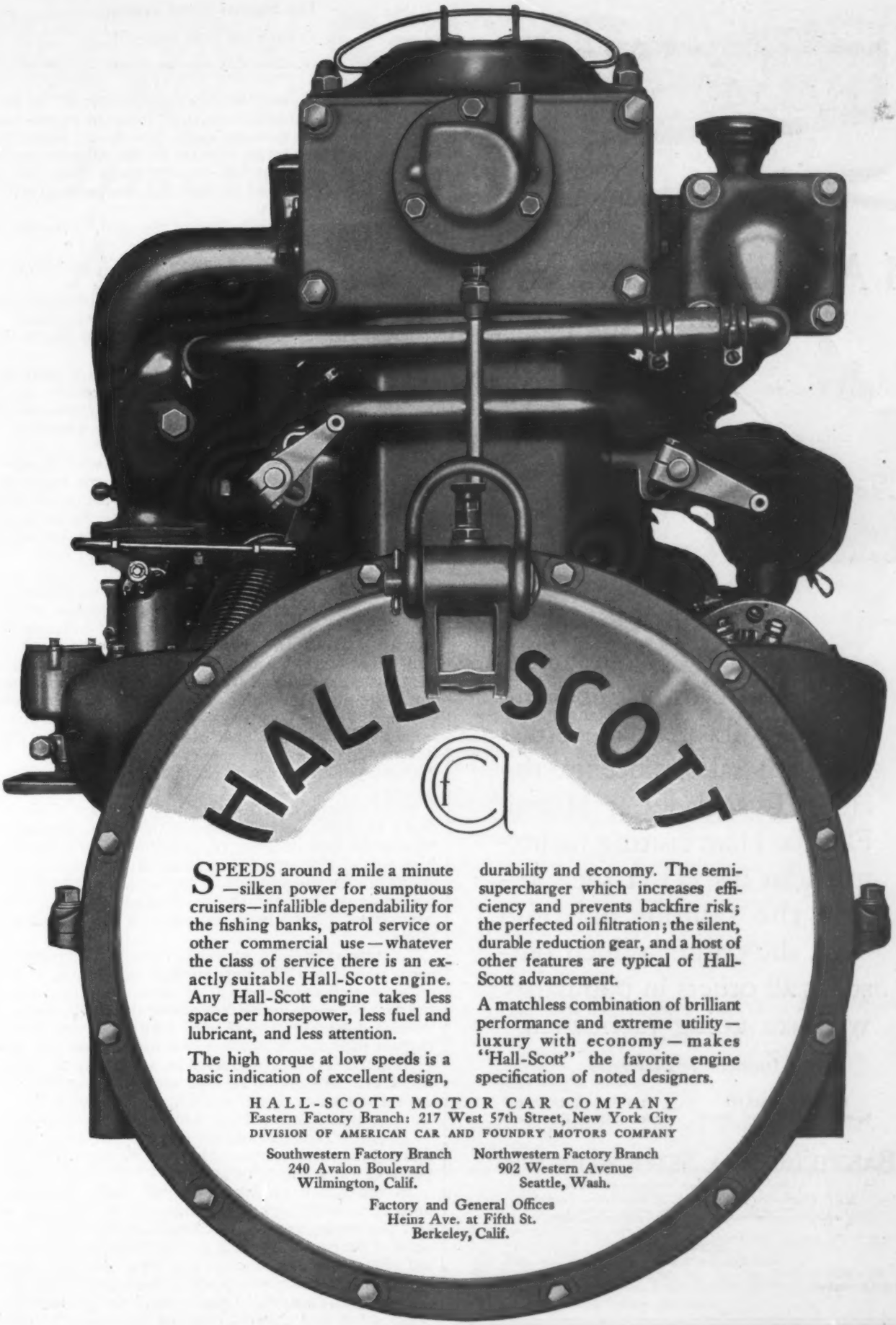
After the sale they abandoned the ship to her fate, and started south overland. The mayor gave them a guide and provisions to the next village, and they were thus passed along from village to village by the authorities, acting under government instructions, and entirely without cost to them.

We, however, avoided Pico Channel, though we were obliged to sail through Boussole Strait in a fog. We kept the lead going all the time and succeeded in getting through safely by this means and by dead reckoning. When the fog cleared we were to the westward of the island of Kumashiri, and knew we were in the Okhotsk.

For about eight weeks, from August 1st on, we cruised the Okhotsk, across to Siratoka where we took a right whale, thence to the southeast corner where we got another. Again we proceeded to the westward and during this time we took no less than five right whales, mostly big fellows, 100 barrels or more each. We were lucky; every time there was a lull and the wind died out we would raise whales. Some of the old hands used to claim that they could smell whales when they were around. Often when they had the night watch they would say, "We will see whales today," and more often than not the prophecy came true. It may have been due to whales stirring up the brit or whale feed which has a smell not exactly fishy, perhaps, nor yet like that of the flats at low tide, but such a smell as the ocean has to a man who, having been inland for a long time, comes again to a clean beach.

On the 8th of October we left the Okhotsk Sea, via Boussole Straits again, bound for Frisco, with 6,000 pounds of whalebone, about 1,500 barrels of oil and about 150 barrels of fresh water. We followed in the Great Circle track home — the shortest route, but also in the track of the heaviest weather. The westerlies — not trades but fine strong winds — carried us along; when about half way home, in latitude 46 and longitude 180, we captured a sperm whale and again five days later on the 160th meridian took another big fellow, over 300 barrels in the two, filling all containers except a 10-barrel cask of fresh water in the main hatchway. But no one ever said anything when another cask of water was broken out and oil pumped in. The last cut of oil made us rising 1,600 barrels, fulfilling Edouard Morgan's gillie prophecy, and when it was stowed he went to the shell, cut it down and threw it overboard, saying (in all seriousness) "You have done your work, you can go back again." Seamen's superstitions are queer things.

We arrived safely in San Francisco with all well on board, November 4, 1903, and tied up again at the old wharf at the foot of Harrison Street, with a full cargo, total value a little over $50,000. Not a bad year's work and about as good a voyage as that very successful ship, the *Charles W. Morgan*, ever made!



SPEEDS around a mile a minute —silken power for sumptuous cruisers—infallible dependability for the fishing banks, patrol service or other commercial use—whatever the class of service there is an exactly suitable Hall-Scott engine. Any Hall-Scott engine takes less space per horsepower, less fuel and lubricant, and less attention.

The high torque at low speeds is a basic indication of excellent design, durability and economy. The semi-supercharger which increases efficiency and prevents backfire risk; the perfected oil filtration; the silent, durable reduction gear, and a host of other features are typical of Hall-Scott advancement.

A matchless combination of brilliant performance and extreme utility—luxury with economy—makes "Hall-Scott" the favorite engine specification of noted designers.

HALL-SCOTT MOTOR CAR COMPANY
Eastern Factory Branch: 217 West 57th Street, New York City
DIVISION OF AMERICAN CAR AND FOUNDRY MOTORS COMPANY

Southwestern Factory Branch
240 Avalon Boulevard
Wilmington, Calif.

Northwestern Factory Branch
902 Western Avenue
Seattle, Wash.

Factory and General Offices
Heinz Ave. at Fifth St.
Berkeley, Calif.

A New Banfield Salon
Opened at MIAMI
in the Hotel Everglades

To complete the circle of Banfield Salons located at strategic boating centers, we announce the opening of a permanent display and sales office in the Hotel Everglades at Miami, Florida. Here visiting yachtsmen can inspect at their leisure the famous Banfield "32", the cruiser which outstrips all others in popularity with sea going yachtsmen.

Immediate Deliveries

100 H.P. KERMATH
Speed, 18-20 M. P. H. $6150

150 H.P. KERMATH
Speed, 22-25 M. P. H. $6950

BANFIELD SEA SKIFF WORKS INC.

SALES OFFICES AND PERMANENT EXHIBIT
277 Park Ave. Bldg. - ENTRANCE 502 LEXINGTON AVE. - *New York City*
PLANT - ATLANTIC HIGHLANDS, NEW JERSEY
LARGEST BUILDERS OF SEA SKIFFS IN THE WORLD

CLEVELAND
Lake Erie Yacht Brokerage Corp.

MIAMI:
Hotel Everglades

LOS ANGELES:
1315 East 7th Street

The Rubber Tired Tramp

(*Continued from page 43*)

rigging and guys, and the hiss and slap of the sea to weather.

"What the — " and then the captain spotted the little white pennant fluttering insistently from the engine room tube. Holding the pennant aside (you would swear that he was about to wipe his nose on it) the old man applied an ear to the opening. "Steam dropping? Then fire up, you — " he rasped, and stuffed back the pennant with a spiteful jab.

"Like as not a gull got afoul of the cord," chanced the mate, fatuously.

"Or maybe a slack-rope walker, you'll be telling me next," snapped the captain. "Why — "

"Hoo-m-m-mmmmm — " interrupted the whistle, and once more we were helpless in its overpowering blast.

"HOW ABOUT A PELICAN?" shrieked the captain, who was fast getting beside himself.

While the mate was endeavoring to give answer, I slyly collared the handle and tugged gently on the lanyard, twice. There came two responsive jerks and the whistle went, "Rrrumph-umph" and resumed its moanful bellow.

"*Two* of 'em!" waggled the captain with a pair of digits outstretched and his thumb and little finger flopping like wings, for he was now beyond articulate utterance. Then he motioned the wheel a'port. If there *were* any birds on that danged cord, he'd ride 'em off by steaming into the wind.

Birds or whatever, the larum gradually ceased as we swung slowly head to, where we continued with the engine turning just enough to give us steerageway, at right angles to our track for Colon. Thoroughly wet, one of us amused and the other certainly disgusted with this mid-watch affair, we adjourned to our respective cabins for shots of quinine and whisky, dry pajamas, and repose. Perhaps I should add that the mystery was further solved for me when, turning into my room, which opened directly upon the deck, I saw a little wisp of a figure, with a coil of heaving line in his hand, slink into the lighted galley. At his heels followed a tawny cat. The door was closed after it, *softly*.

Mid-forenoon, and I was lounging in one of the captain's Madeira chairs. He was in the other. Through the substantial teak doorway of his cabin one saw the barrel-high seas of the night before being dolloped down by the gentle trade. All serene, the *Tongangruve* was back on her course again, and her skipper had resumed his normal composure. Presently he leaned over and touched my elbow.

"Young man," he snurked, though I've passed my forty West I'm still young enough, as *he* says, to be his own son by his second wife, "it's one thing for you to tell me that the cook was hiding under the stack, there, and holding down the whistle cord with a heaving line he'd thrown over it. I'll swallow *that* easier than the mate's gulls and pelicans or whatever he was trying to make me think was roosting on it. But when you say that damn cat's aboard this vessel, you'll have to prove it."

So I got up, and selecting a cigar from his private box, — the one he keeps in his boot locker — I bit one end and, lighting the other, motioned him to follow me. The smoke, you see, was going to be on him.

In the galley we found the old cook, humming an ancient tune through his toothless gums. Thomas, for it was he, was stropping his side against the cook's leg. At sight of the captain, the cat sprang deftly to the far water-sill where he poised uncertainly. Near the tip of his tail, like a flag of truce, was a white bandage, neatly bound.

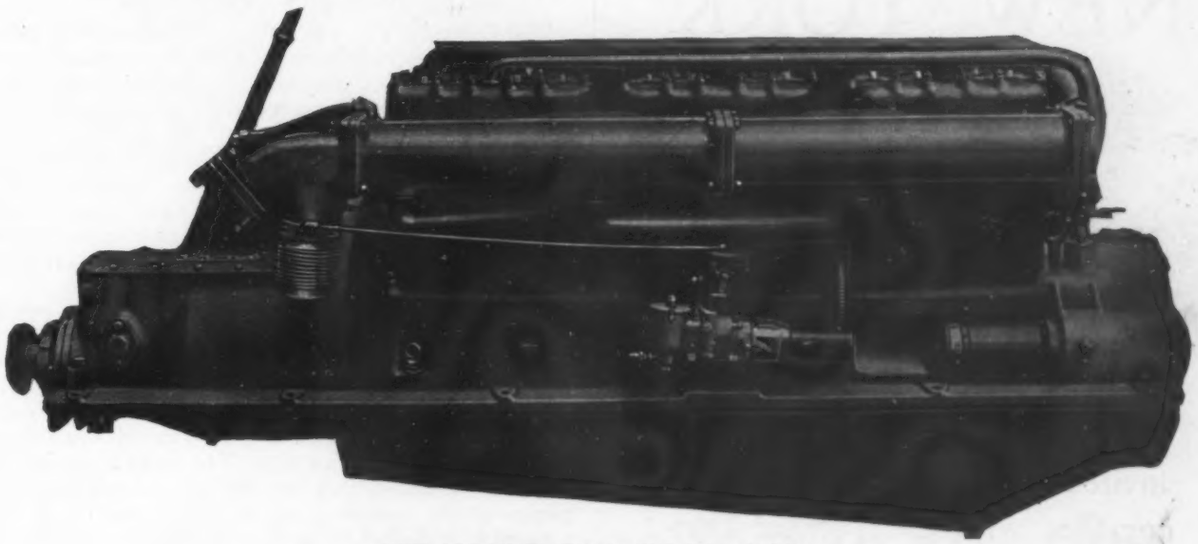
"You see, captain," I explained, "the cat landed on a wind scoop and crawled into the Second's stateroom. I

BETTER PERFORMANCE
GREATER VALUE
HIGHER QUALITY

EXTRA RESERVE STEARNS MARINE ENGINE

FINER WORKMANSHIP
MORE ECONOMICAL
LASTING ENDURANCE

Discriminating Buyers Appreciate Worthiness



THE STEARNS SIX: 90 H.P. TO 180 H.P.

Embodies the latest refinements and improvements in marine engine design. Skinner Oil Rectifier, three spark plugs to each cylinder, two independent ignition systems and high pressure lubrication are only a few of the major advantages the Stearns gives you.

ONCE you have experienced at first-hand the marvelous performance of the Stearns Extra Reserve Marine Engine, the "Four and Six," you will more readily understand the underlying reasons for its constant growth in popularity among critical yachtsmen.

The Stearns today, with its many improvements and advanced features, is the most striking value in its price class on the market. The wide range of Stearns Extra Reserve Marine Engines makes them adaptable for service in many types of boats. Write today for catalog or call on the nearest Stearns dealer.

PRICES OF THE STEARNS SIX
90 H.P. to 180 H.P.

Model	*Bore and Stroke*	*H.P.*	*Revolutions*	*Weight*	*Price*
MDU-6	5⅛ x 6½	90-125	900-1200	2500 lbs.	$2375
MDR-6	5⅛ x 6½	160	1600	2050 lbs.	$2565
MEU-6	5½ x 6½	100-140	900-1200	2550 lbs.	$2525
MER-6	6½ x 6½	180	1600	2075 lbs.	$2690

Prices crated F. O. B. Factory

Stearns Extra Reserve Marine Engines are also made in 4 cylinders, ranging from 25 h.p. to 140 h.p.

STEARNS MOTOR MANUFACTURING CO.
LUDINGTON, MICHIGAN

Distributors:

New York, N. Y., Sutter Brothers, 44 Third St.
Detroit, Mich., Stearns Motor Mfg. Co., 3420 McDougall Ave.
Rochester, N. Y., V. E. Lacy, Charlotte St.
New Orleans, La., Woodward, Wight & Co., Ltd.
Galveston, Texas, C. N. Nagle.
Baltimore, Md., Mahon & Gall, Inc.
Boston, Mass., Savage Boat & Engine Co., 780 Commonwealth Ave.
Norfolk, Va., Hague Mach. Co.
Charleston, S. C., United Co., Inc.
Los Angeles, Calif., Mr. A. B. Cameron, 1315 East 7th St.
Chicago, Ill., Masters & Co., 800 N. Clark St.
West Palm Beach, Fla., George D. Raymond.
Seattle, Wash., H. G. McLaughlin Co., Inc., 904 Western Ave.
Jacksonville, Fla., Gibbs Gas Engine Co., of Florida.

Agents and Dealers in All Principal Marine Centers, U. S. A. and Foreign Countries

AT THE NEW YORK SHOW

NEW — and embodying the characteristic refinement of every Dart — a 30-foot Runabout . . . Visitors at the Grand Central Palace, January 20th to 28th, are invited to inspect this achievement together with the popular Dart 26-foot Runabout and Dart 22½-foot Junior.

INDIAN LAKE BOAT COMPANY: INC.
348 East High Street • Lima • Ohio

The DART RUNABOUT

Permanent Dart Display Rooms at

NEW YORK — Bruns Kimball & Co. — 50 West 17th
BOSTON — Atlantic Radio & Marine Co. — 20 Brookline Ave.
PHILADELPHIA — Bruns Kimball & Co. — 102 So. 4th
CHICAGO — The Motor Boat Mart — 1725 Diversey Blvd.
MIAMI — Atlantic Boat Yard Co. — 243 S. W. 6th

saw that when the others were looking aft along the ship's side."

"But what happened to his tail?"

"Oh, I nipped him," chirped the cook, "when I went down to let him out after this gentleman told me, sir. It was a good chance, and we're quits now."

I have an idea that it was more than the cat the cook was at quits with. At any rate, the old *Tongangruwe* continued on her voyage, bung up and bilge free of any sound but the purl of the trade seas, the gummy lays of the old cook as you passed the galley, and the faint "tunk-tunk" of the captain's clock as the lazy watches reeled astern.

A Cruising Staysail Rig

(*Continued from page 52*)

The foremast was cut off about 18 feet. The bowsprit was cut down 12 feet, bringing the rig more inboard. The main gaff with its jaws wearing on the mast was discarded. The fore gaff was treated the same way. Some 40 or more blocks were eliminated. All the wire bridles for the gaffs were done away with. About 3,200 feet of running rigging was eliminated. About 100 square feet more area was gained in the new rig over the lower sails in the old. Over *two tons* of top hamper was eliminated so that the vessel would carry her sail longer and more comfortably than before.

The result of all this was that the *Elise* would sail about a half point closer on the wind than before and, at the same time, foot faster. She was faster on a reach, handled quicker, and required a smaller crew. The mainsail now could be hoisted by one man whereas three had been required before. Each one of the other sails could be hoisted by one man. The *Elise* is equipped with a power windlass and by adding a single-head electric gypsy at the mainmast to hoist the main and the two staysails, and also to use for getting the launch aboard, the manual labor is reduced to a minimum.

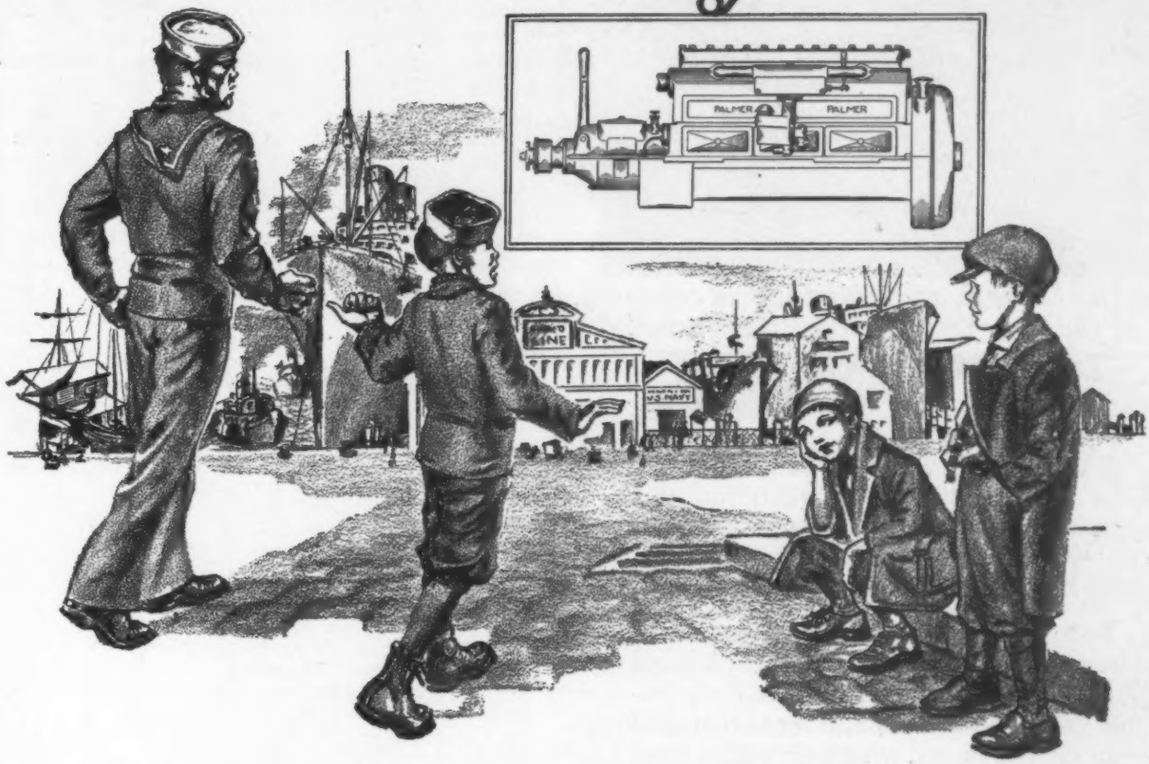
After some experience with this rig, it seemed that it would be possible to improve the rig still further, without in any way detracting from its ease of handling, by enlarging the main staysail and decreasing the size of the upper staysail. This finally resulted in the rig shown in Fig. 4. This sail plan shows the rig that we put on Mr. Heckscher's new 80-foot auxiliary schooner.

In this rig it will be noted that the main staysail is carried to the mainmast head, which gives it a complete discharge of air on the lee side of the mainsail for nearly the entire length. The upper staysail has now become a triangular sail, more the shape of a jib topsail set backwards. This sail is snapped on the jackstay, has a wire luff rope in the head and is set flying from the foremast to the mainmast. It is made with a leech rope that is heavy at the tacks and tapers off to practically nothing between. The sail is fitted with a drawing string so that it can be puckered when off the wind. It is hoisted by a single halliard and has no sheet whatever. The sail is sheeted with the lower tack, at the deck.

We now have a rig that has a discharge of air on the leeward side of each sail for its whole length. Each sail is hoisted with a single halliard, and in working the vessel there is only one sheet to trim, the jib. This rig has the disadvantage of not having the overlapping sails, but the advantage of simplicity in working the boat to windward, which to the cruising man is more important than the last few seconds that might be cut down in his run from port to port, more than compensates.

This rig has the advantage over the first rig in that it is possible to have two jackstays on the foremast, so that when desired a large balloon upper staysail may be set between the masts for long runs off the wind. It also has

Power-Boy Six



Here's Little Huskie's Big Brother

Palmer Distributors

New York, N. Y.
89 Third Ave.,
at 12th Street
Baltimore, Md.
306 East Lombard St.
Philadelphia, Pa.
631 Arch St.
Portland, Me.
Portland Pier
Boston, Mass.
Rapp-Huckins Co.
59 Haverhill St.
Norfolk, Va.
Gas Eng. & Boat Corp.
Jacksonville, Fla.
122 S. Ocean St.
Tampa, Fla.
Ft. of Whiting St.
Miami, Fla.
B. E. Schubert,
1008 North West
8th St. Road
Portland, Ore.
Oregon Marine &
Fisheries Sply. Co.
Seattle, Wash.
Pacific Marine
Supply Co.
Vancouver, B. C.
V. M. Dafoe,
1100 Powell St.

THE well-deserved place won by Little Huskie during the past year gives us confidence that this new engine will likewise meet your approval.

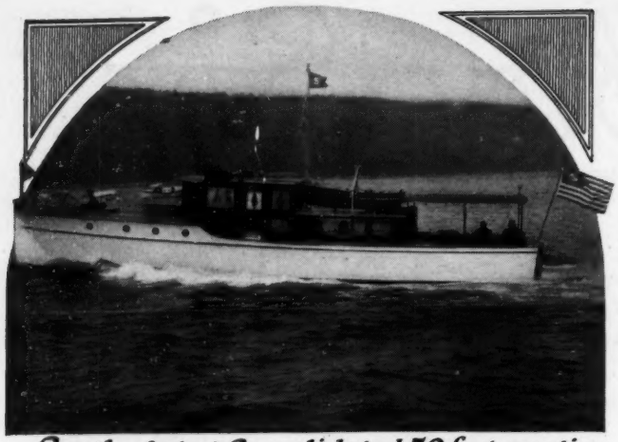
It is Little Huskie's big brother; named for your convenience, "Power-Boy Six" or Model PB 6. Clean as a whistle, quiet as a bird and as full of pep as Jackie on shore-leave . . . don't miss it at the Motor Boat Show.

Briefly, it is a totally enclosed six cylinder job with such modern refinements as 2½ in., seven bearing crankshaft, electric starter, heat-control, crank-case ventilator, oil-cooler and silent timer chain.

3½ in. bore by 4½ in. stroke, or 259.7 cu. in. giving at 1200-1400 r.p.m. full 35-40 h.p. dependably.

We're proud of Power-Boy Six.

Palmer Bros. Engines Inc. · · · Cos Cob, Conn.



See the latest Consolidated 50 foot creation at the New York Motor Boat Show · ·

WE EXTEND you a cordial invitation to inspect the latest creation of the world's largest builders of fine pleasure craft—which will be exhibited at the New York Motor Boat Show, Jan. 20th—28th.

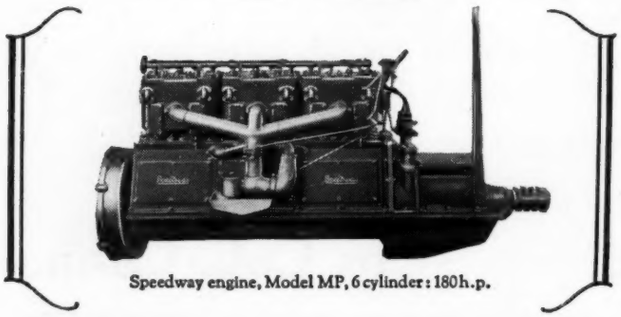
To insure that perfect coordination of design and power for which Consolidated Built Boats are famous, a Speedway Engine (Model MP) six cylinder is installed —an engine famed wherever yachts float for its sturdiness and reliability.

With the yachting season for 1928 but a few months away—we urge yacht owners to consider replacing their worn or inadequate power with a modern conservatively rated and reliable Speedway Engine.

Let us figure with you on your new boat —or re-powering your present one. Interesting illustrated printed matter will be furnished on request, not only for our Speedway Engine, but for any type of boat you have in mind—from our famous Playboat to a sea-going yacht.

CONSOLIDATED
SHIPBUILDING CORPORATION
MORRIS HEIGHTS NEW YORK

Makers of Yachts *and* Speedway *Engines*



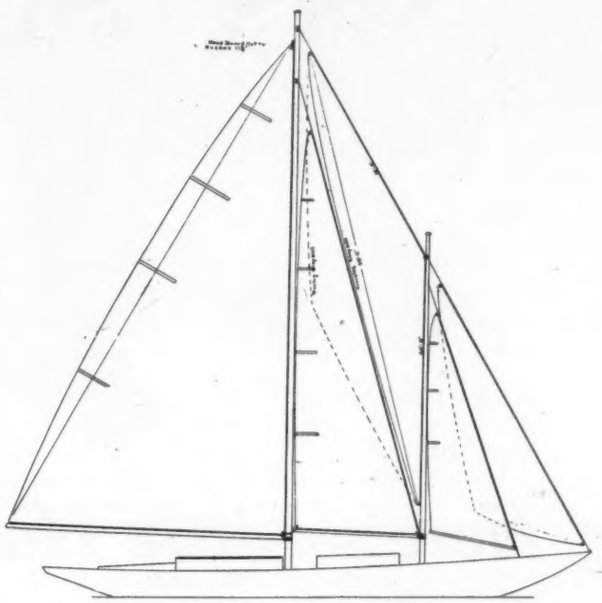
Speedway engine, Model MP, 6 cylinder: 180 h.p.

the advantage of taking less sail off th[illegible]t when the upper staysail is taken in.

This rig, I believe, will prove an ideal [illegible]bination rig for the auxiliary cruising schooner, as it c[illegible] the crew to a minimum and allows the vessel to be [illegible]otten under way in the shortest possible time. Wit[illegible] the electric windlass and electric hoist it is perfectly po[illegible]sible for one man to get this 80-foot schooner under wa[illegible] in less than fifteen minutes from the time he starts his [illegible]nchor chain coming in.

In summing up, it may be said that the [illegible]ual fore and aft schooner rig, fitted with gaff-headed [illegible]ainsail and foresail has many disadvantages, some of th[illegible]a as follows:

(a) The fore gaff tends to fall off so that [illegible]is necessary to trim the foresail flatter than it should be for efficiency of driving. This, in turn, causes a back draft on the mainsail which it is practically impossible to overcome.



Sail plan racing schooner *Alice* with Bowes staysail rig.

(b) The air currents are badly broken up by the foresail.

(c) The fore topsail introduces complications in beating to windward or in handling the ship.

(d) It requires many more halliards; a great many more feet of running rigging; many more blocks and greater weight aloft.

Schooners rigged with jib-headed mainsail and gaff foresail have all of the disadvantages of the usual fore and aft rig, but are more efficient, due to the fact that the mainsail and maintopsail are in one sail. The full jib-headed rig is not an efficient combination for a cruising boat because the jib-headed foresail becomes such a narrow sail that much area is lost between the two masts and it is difficult to cut so as to secure a proper fit that will last for any length of time.

The staysail rig described here overcomes most of the above objections and many others in the way of handling, in addition to which it has the following advantages:

(a) Only the mainmast is in such proximity to the luff of the lower working sails as to cause serious air stream losses. The luff of the main staysail is set on a stay and the luff of the upper staysail is set on a jackstay and a wire luff head that permits the sail to streamline in the direction of the mast.

(b) By making the sails triangular, or elements of triangles, with the head of the triangle held by a single halliard from above, sails of this type, if properly cut originally, will continue to hold their shape and efficiency and can be made of lighter material than the other type.

A NEW UNIVERSAL FACTORY
. . . and what I think built it

I AM pleased to announce the completion of the new Universal factory—a brand new structure from stem to stern—designed and built in every detail to be a model among the world's finest devoted to engine building.

Sixty thousand feet of floor space, individual motor driven precision machinery of the latest type and an experimental laboratory in which motors are tested under approximate working conditions equivalent to years of field service are but a few of the features of our new home. In addition to the new factory, Universal has also enlarged its foundry—controlling the quality and cost of its castings as in the past, but enlarging production facilities to meet the growing demand for Universal motors.

If it is possible to expect better performance than Universal motors have been giving, certainly 1928 should bring it. But what built this largest and best equipped plant in the industry?

First, a firm belief that the most efficient and economical marine motor is one designed and built especially for boats.

Second, our policy of first thoroughly testing new improvements or new models. Universal has never had a failure of any model.

Third, the development and maintenance of a world-wide dealer organization with parts and service facilities in every country in the world.

Fourth, engineering alertness which constantly seeks a better way to do things—to improve design, construction, performance, and economy. Most recent is Universal's increasing of power per pound and perfecting Reduction Drive with its tremendous saving to cruisers and heavy boats.

Fifth, letting the soundest business principle we know of dominate every relation with our customers — the Golden Rule.

Lastly (and this is all reasons in one), are the thousands of Universal owners who liked these policies and who purchased because of them. To these and our other friends all over the world, we pledge our new plant to bring greater glories to the name "Universal".

E. W. Tahmey

President,
UNIVERSAL MOTOR CO.,
63 Ceape St., Oshkosh, Wis.

Universal
10 to 50 Horse Power
MARINE MOTORS
Electric Plants, Industrial Engines, Pumping Units

New York Show Room:
44 Warren Street
New York City

Enlarged Universal Foundry

London Show Room:
22 George Street
Hanover Square

GET YOUR SAILFISH

DEEP sea fishermen are having their day here in Miami. Stories of incredible catches are heard about town—at the Angler's Club, along the waterfront, in the homes of sportsmen. Does anyone believe them? Stop by the yacht basin at sundown when the fishing parties come in from Key Largo or the Gulf Stream. Success is measured there in terms of sailfish.

Dependable Tackle

Hopkins-Carter have long been supplying boat captains and seasoned anglers with fishing equipment—reels and lines that have proved their mettle against the biggest game fish in Florida waters.

Please Visit Us

Hopkins-Carter invite you to make your headquarters at their store this winter while you are in Miami. You will find their men sincerely interested in marine sports merchandise.

HOPKINS-CARTER
MARINE HARDWARE
MIAMI, FLORIDA

THE ONLY TENDER

That Is Also a Contender for Speed Honors

One Lyman Dink won 14 trophies in 16 events. One finished third at Greenwich. Another won the New York State Championship.

Think of the fun you can have with a well-built 135 lbs. tender that will go 20 miles an hour with a forty pound motor.

This is only one of the SELECTED BOATS — each the best for its purpose — that we will exhibit at the Motor Boat Show, Mezzanine Space U.

Outboard Motor Headquarters

BRUNO BECKHARD

FLUSHING BRIDGE FLUSHING, L. I., N. Y.

(c) With the upper staysail either sheeted to a crosstree traveler, or of a triangular shape, as shown in Fig. 4, no tending of sheets is necessary, so that the only work in handling the vessel to windward is the jib sheet in the double-headsail rig, and the main backstay.

(d) Last, but not least, the staysail rig, when properly designed and constructed for the cruising boat, is a cheaper rig to build and install than the old type of schooner rig with the topsails, gaffs and the necessary equipment for handling them.

The average yachtsman with his cruising boat has until recently given his rig but very little thought. Years of work have been put into developing the best possible and the most easily driven hull form, but the main power plant of the cruising auxiliary, which must be considered, as well as the sail plan, has stood practically still for many years.

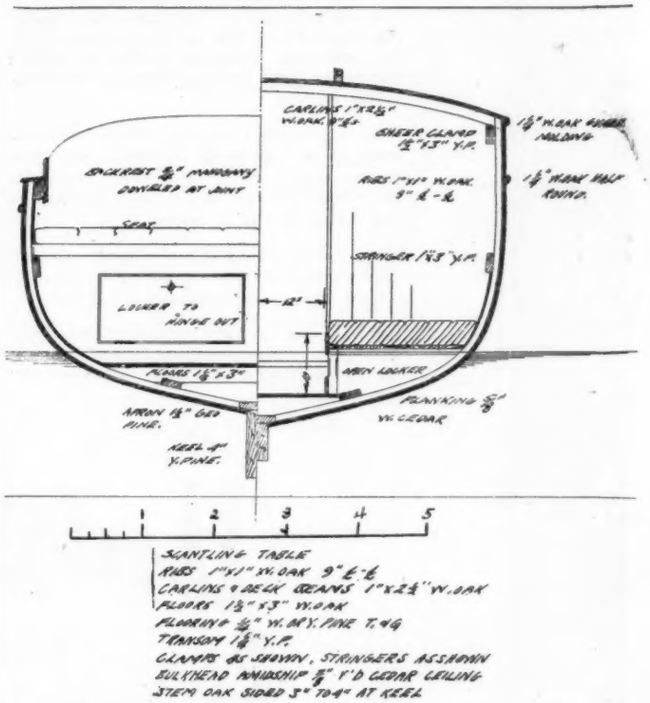
In the power yachts, we have seen the development of the form and the development of the machinery go hand in hand but it is only within the last two or three years that there has been an awakening in the minds of those interested in the development of the sailing cruiser that it might be well to see if it were not possible to improve on the prime mover and, at the same time, simplify it in such a way as to reduce the original cost and the cost of operation.

A Husky Small Outboard Motor Cruiser

(*Continued from page 70*)

alternative would be the use of a two-cycle five to ten-horsepower inboard motor installed under a hatch in the cockpit.

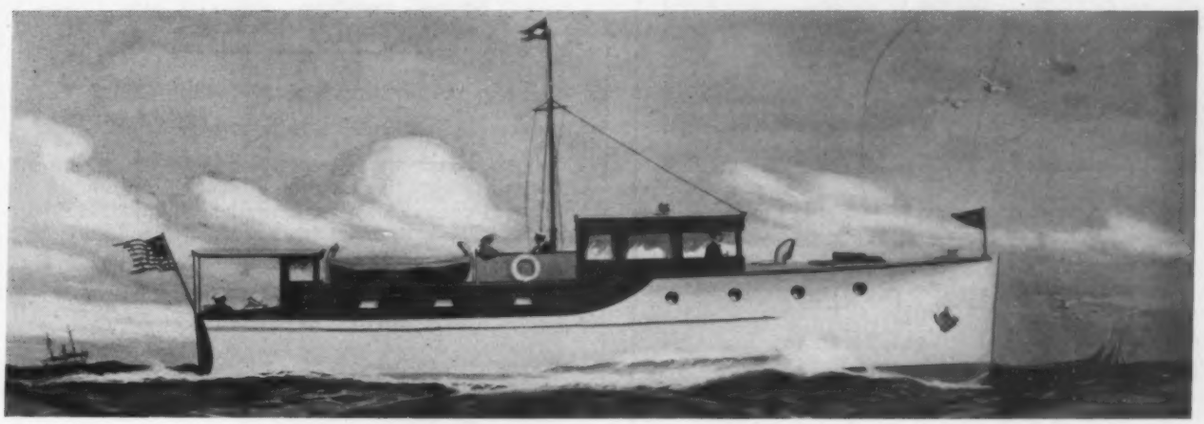
Since starting work on this boat, the designer has had considerable experience with the use of wells for the in-


SCANTLING TABLE
RIBS 1"x1" W. OAK 9" c. c.
CARLINS & DECK BEAMS 1"x1½" W. OAK
FLOORS 1½" x 3" W. OAK
FLOORING ⅝" W. MAY. PINE T. & G
TRANSOM 1⅛" Y.P.
CLAMPS AS SHOWN, STRINGERS AS SHOWN
BULKHEAD AMIDSHIP ⅜" I'D CEDAR CEILING
STEM OAK SIDED 3" TO 4" AT KEEL

stallation of outboards. The well does not, as might be expected, weaken the hull in the least. Because of its position in the fore-and-aft bulk of the hull, it has very little effect on the curve of areas, or on the running quality of the boat. It is not feasible to build a well large enough to shut the motor in and retain anything like strength in the hull construction. Strange as it may seem, the question of the height of the well requires no attention in a boat which is underway. The well always runs dry. Running

The New Era *of the* Diesel Cruiser

THE Humphreys custom-built Diesel Cruisers specially designed for the modern lightweight Deisel motor have opened up cruising possibilities heretofore undreamt of. Their staunch construction, extreme seaworthiness, and amazing economy of operation ensures extended cruising with the maximum of comfort and security.



DIMENSIONS: L.O.A. 40', BEAM 11', DRAFT 4'

The Humphreys 40-Foot Offshore Diesel Cruiser

OPERATED AT LESS THAN TWO CENTS PER MILE WITH 1000 MILES CRUISING RADIUS

THIS remarkable cruiser shown above is designed primarily to go anywhere in perfect safety under extreme conditions and so economical in operation that the cost need never be considered. Sturdy construction and extreme seaworthiness an outstanding consideration. Extraordinary accommodations include two large double staterooms aft directly accessible from enclosed deck house. Engine room with full headroom. Separate full-width galley as well as forecastle with enclosed toilet for paid hand if one is to be carried. Roomy cockpit and raised quarter deck provide unusual deck space.

Cruising speeds up to 15 m.p.h. developed by latest type Diesel power plant, smooth, silent, vibrationless. Extreme simplicity of operation, and definitely proven reliability are outstanding features. Single- or twin-screw with full pilot house control.

Custom-built and equipped but delivered at the price of a stock boat.

Your Individual Requirements ... Diesel Conversions

THE personnel of our Designing Department has long specialized in the Diesel field and will prepare sketches of Diesel powered vessels, ranging from 32-ft. cruisers to palatial express commuters, embodying your individual requirements. We have designed several Diesel Commuters for our clients who can now enjoy a restful run by water from country house to office at speeds up to 26 m.p.h. at a small fraction of the former cost.

OUR engineers can furnish expert advice on the conversion of your present boat to Diesel power — suggesting the motors most suitable in each case — furnishing estimates and supervising the actual installation

YOU ARE INVITED TO VISIT OUR BOOTH 117 AT THE MOTOR BOAT SHOW AND INSPECT OUR MODELS OF DIESEL CRUISERS

Send for Bulletin A20 giving prices and full particulars of the Humphreys Diesel Cruisers in sizes from 32—50 feet overall

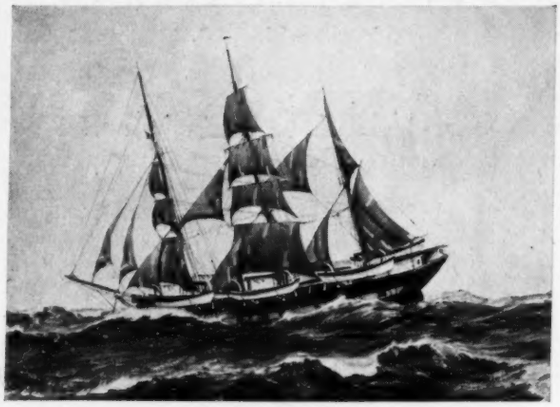
FREDERIC P. HUMPHREYS

Naval Architects
347 MADISON AVENUE

INCORPORATED
NEW YORK

Marine Engineers
2320 MURRAY HILL

WHALING SCENES



Paintings and Etchings
of your favorite ship to order by
CHARLES ROSNER
From Photographs, Prints or detailed descriptions

Further particulars from the Artist's representative:
I. H. HARRIS
145 West 45th Street New York
Telephone: Bryant 5435

SEE TIEBOUT
At the New York
MOTOR BOAT SHOW

A hearty welcome awaits you at the splendid Tiebout exhibit of Marine Hardware and Supplies at the show, and at all times at Marine Hardware Headquarters, 118 Chambers Street.

W. & J. TIEBOUT
118 Chambers St. New York
226

through a wake, or a short chop, does not affect the depth of the water in the well more than about an inch. The best arrangement is to have the watertight bulkhead forward of the motor installation about at the backrest of the seat, as shown. The motor should be given half a turn on the propeller shaft so that the carburetor would be aft. There would be no point in building the well higher, since, with a watertight bulkhead, the question of motor installation disposes of itself.

Several boats of this type, varying in length from 18 feet to 20 feet, are now being produced by different builders. They are fine little craft, with a surprising amount of room.

It should be possible to produce the hull of this boat at a cost of $700 to $900, depending on where it was built.

Advocates Roller Reefing Gears

(*Continued from page 78*)

YACHTING. I take pleasure in saying that every statement made in the article regarding the usefulness of this equipment has been borne out by my experience. From the standpoint of safety alone, I firmly believe, after 30 years of experience in handling small

Outboard end of roller reefing gear, showing claws on boom.

sailing craft, that every small yacht should have a roller reefing gear as part of its standard equipment.

EUGENE W. STERN

The International Salon Nautique

(*Continued from page 37*)

frightful odds. The great balcony of the Grand Palais was occupied by the radio and accessory men who staged comprehensive exhibits covering the many ramifications of those fields.

An exhibit of marine art — incidentally, a good index of the great need for real marine artists — was held in conjunction with the Salon. The Department of Fisheries erected a good-sized aquarium wherein were shown all the strange and commonplace fish known to the sea toilers of the coasts. The booth of the French navy, with its models of battleships, submarines, and destroyers, attracted many, as did an exhibit where an enterprising instrument maker had a real periscope through whose lofty eye thousands of people surveyed the show from a bird's vantage.

It was difficult for the writer to see any way in which American builders could hope to interest the French in their work because of the great difference in price. American designs, however, might be sold to advantage at such a show, especially if made more intelligible to the layman by the presence of such a craft as a *Malabar* or one of the American standardized power boats — either cruiser or runabout.

The Third Salon Nautique, to be held next year, does offer a fine field to the American maker of accessories,

(From November Motor Boating - Page 112)

ciation Outboard Records fo

nmission, C.

to 20 Cub

me	Speed
84	22.84
9	23.14
9	23.67
7	25.01
2	20.30
6	26.03
1	26.37
	25.50
	23.74
	24.35
31	21.12
27	21.30
	17.01
	17.39
	25.593
	24.258
	22.113
	20.27

Average Speed
22.777 M.P.H.

18 Class B racing records (average) equalled by the first 200 stock Speedsters

. . . brand new . . . stiff . . . unlimbered!

Straight from the production line, the first 200 Speedsters were required to *equal* or *exceed* 22½ m. p. h. on regular stock speed hulls before being OK'd for shipment to users.

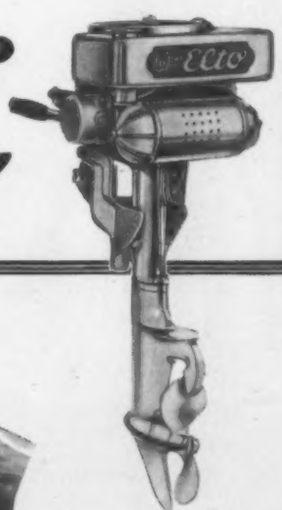
Average winning time 1927 B class races (see Nov. MOTOR BOATING) was 22.777 m.p.h.

The average of these test runs, twice timed on an accurately surveyed course, was *better than* 22.9 m. p. h. 95% of these motors passed their speed tests within the first 20 minutes.

Every Speedster, new and stiff, must prove capable of such performance before shipment!

No preliminary grooming or breaking-in. No racing propellers. No stripping of mufflers. Just ordinary Speedsters, exactly as they go into the hands of every user.

What will they do when they're really put in racing trim!

The big point is — you've got *race-winning speed to start with.* Full information on the Super Elto Speedster gladly sent on request. Elto Outboard Motor Company, Ole Evinrude. President, Mason Street, Dept. 2, Milwaukee.

The Super Elto Speedster